THE ORIGINAL

ASTRONOMICAL OBSERVATIONS,

MADE IN THE COURSE OF

A VOYAGE towards the SOUTH POLE,

AND

ROUND THE WORLD,

In his MAJESTY's Ships the RESOLUTION and ADVENTURE,

In the Years MDCCLXXII, MDCCLXXIII, MDCCLXXIV, and MDCCLXXV,

By WILLIAM WALES, F. R. S.
Maſter of the Royal Mathematical School in Chriſt's Hoſpital;

And Mr. WILLIAM BAYLY,
Late Aſſiſtant at the Royal Obſervatory.

Publiſhed by Order of the BOARD OF LONGITUDE, *at the Expence of which the Obſervations were made.*

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MDCCLXXVII.

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INTRODUCTION.

AT the time when the Voyage was firſt planned that gave birth to the following Obſervations, it had long been the opinion of learned men, that there muſt be vaſt tracts of land, at that time undiſcovered, towards the South Pole. The probability of this opinion induced his Majeſty to fit out two ſhips, the Reſolution and Adventure, to determine this intereſting point in Geography, amongſt many others, equally curious, although not altogether ſo important as this. But it is not to be ſuppoſed that this opinion had any other foundation than mere probability: The Mathematical, or Philoſophical reaſons, which had from time to time been offered to the Public, having no foundation in nature; and the notion which ſome perſons have got concerning the neceſſity of a counterpoiſe, is ſo very unphiloſophical, that I am much ſurpriſed how ſo many ingenious Gentlemen have happened to adopt it. It is well known to Mathematicians, that every body, while at reſt, however irregular, will be *in equilibrio,* when ſuſpended on any line that paſſes through its center of gravity; nor will the revolution of a body, thus circumſtanced, about an axis, be diſturbed hereby, if the irregularities lie in the direction of its axis of rotation, as they are ſuppoſed to do in the caſe before us: if, indeed, they lie in any other direction, the matter will be different; but even then they muſt be much greater than any mountains that we know of to cauſe a ſenſible aberration in the axis of the earth.

If now, to an irregular maſs of rigid matter, circumſtanced as our earth is, there be added a quantity of matter perfectly fluid, it is

is well known, that it will diſtribute itſelf into the vallies, or rather along thoſe parts of the rigid matter which are neareſt to the center of gravity, without any regard to the center of the maſs; and conſequently, if there be not a ſufficiency of the fluid matter to overflow and cover the whole, thoſe parts will be laſt covered which are towards that part of the globe, or body, which is leaſt denſe; and this might be the caſe even if the globe was a perfect ſphere, without any irregularities in its ſurface. The ſame purpoſe might be effected, though perhaps in a more limited degree, merely by irregularities of the ſurface, even if the earth was every where equally denſe. At the ſame time it is proper to obſerve, that, although there is no neceſſity, yet it was highly probable, before this experiment was made, that the irregularities both of denſity and ſurface might be nearly equal in both hemiſpheres; and on that foundation alone, I believe, the Voyage was ordered to be undertaken.

As ſoon as the Voyage was determined on, the Commiſſioners of Longitude, ever attentive to the improvement of Science, came to a reſolution of ſending out two perſons, one in each ſhip, to make ſuch obſervations as appeared to them moſt conducive to the advancement of uſeful knowledge, and were pleaſed to appoint Mr. WILLIAM BAYLY, late aſſiſtant at the Royal Obſervatory, and myſelf, for that purpoſe; at the ſame time, furniſhing us with every inſtrument neceſſary for the undertaking, of the beſt ſort, and conſtructed by the moſt approved makers, a liſt of which follows.

1. A Portable Obſervatory.

2. An Aſtronomical Clock, made by Mr. Shelton.

3. An aſſiſtant Clock, made by Mr. Monk.

4. A Tranſit

TO THE RIGHT HONOURABLE

JOHN Earl of SANDWICH,

First Commissioner of the Boards of ADMIRALTY and LONGITUDE, &c. &c. &c.

MY LORD,

IT affords me the highest Satisfaction that I am permitted to address the following Sheets to your LORDSHIP, as the Patronage of a Nobleman to whom these Sciences, and Literature in general, owe so much, and to whom this Work in a peculiar Manner appertains, will undoubtedly secure to it a favourable Reception from all Persons of Taste and Learning. It is indeed to your LORDSHIP, and the other Honourable and Learned Gentlemen who constitute the Board of Longitude, that the Existence of this Work is to be attributed; and to the same fostering Care and generous Encouragement we are indebted for the present Accuracy of our Instruments, the Correctness of our Tables, and I may with Truth add, the Skill and Dexterity of the intelligent Mariner, who now makes those Observations with a Degree of Success, which a few Years ago was despaired of.

That

DEDICATION.

That your LORDSHIP may long enjoy the high and important Offices, which you now fill so much to the Honour and Interest of the Nation, and to the Advancement of every useful Art and Science, is, I am well assured, the sincere *Wish* of every Friend to the true Interests of this great Empire, and of none more than of,

MY LORD,

Your LORDSHIP'S much obliged,

most obedient, and

faithful humble Servant,

CHRIST'S HOSPITAL,
April 26th, 1777.

WILLIAM WALES.

4. A Tranſit Inſtrument, made by the late Mr. Bird.

5. An Aſtronomical Quadrant, made by the ſame excellent artiſt.

6. A Reflecting Teleſcope, of two feet focal length, made by the ſame.

7. An achromatic Refracting Teleſcope, of 3½ feet, and triple object glaſs, made by Mr. Dollond.

8. An achromatic divided Object-glaſs, micrometer to ditto, made by Mr. Dollond.

9. A Hadley's Sextant, made by the ſame.

10. Another, made by Mr. Ramſden.

11. An Azimuth Compaſs, made by Mr. Adams.

12. A pair of Globes, made by ditto.

13. A Dipping Needle, made by Mr. Nairne.

14. A Marine Barometer, by ditto.

15. A Wind Gage, invented by Dr. Lind of Edinburgh, and made by Mr. Nairne.

16. Two Portable Barometers, made by Mr. Burton.

17. Six Thermometers, made by ditto.

18. A Theodolite, with a level, and a Gunter's Chain, made by the ſame.

19. An Apparatus for trying the heat of the ſea-water at different depths.

20. Two Time-keepers, one made by Mr. Larcum Kendall, on Mr. Harriſon's principles, and the other by Mr. John Arnold.

Mr. Bayley had a duplicate of each of the above inſtruments, excepting the Tranſit-inſtrument, which was to be uſed in common

by

by each of us; and that both his Time-keepers were made by Mr. Arnold. The following account of these articles will not, I presume, be unacceptable.

Of the Observatory.

The Observatory was contrived by my associate Mr. W. Bayly, and is undoubtedly one of the most convenient portable Observatories that has yet been made. The upright sides consist of eight staves, *A B*, *C D*, &c. (see Plate II.) about two inches diameter, and five feet and an half long, which supported a circular ring, 1, 2, 3, 4, &c. to 21. of eight feet diameter, and the covering, *r*, *q*, 9, 10, &c. to 21, *o*, *p*, of oiled canvass. The staves are of beach-wood, armed at the bottom with spikes, to stick into the ground, and at the top with small iron pins, fitted to holes which are made to receive them in the ring. The ring is composed of eight circular arches, of about three feet long, two inches broad, and an inch thick, made of beach-wood, and are readily put together, or taken asunder by means of strong iron plates, screwed fast with wood screws to the end of one arch, and by screws and nuts to the end of another, for the purpose of frequent screwing and unscrewing without danger of wearing out the holes, as would be the case with wood screws entering the wood itself. Into the outer edge of this ring are drove small staples, 1, 2, 3, 4, &c. and to the upper edge of the canvass, answerable thereto, are sewed several small hooks, which being hooked into these staples, serve to support the upper edge of the canvass, while its lower edge just reaches to the ground: The two parts of the canvass, 2, 1, *o*, *p*; 9, *q*, *r*, are supposed to be unhooked from the staples 1, 2, 3, 4, and 5, 6, 7, 8 respectively, and thrown back to shew the inside of the Observatory, and the manner of fixing up the Clock, to be described hereafter: *B E* is a brace of the same

sort

ſort of wood, ſcrewed faſt to the top of the ſtaff *A B*, by a ſcrew at *B*, and to the bottom of the ſtaff *D C* at *E* Theſe braces, from the top of one ſtaff to the bottom of the next, kept the whole upright circular frame very ſteady *F G H I K L M N* is another circular ring exactly of the ſame dimenſions and conſtruction with the former, on which it reſts To this the roof of the Obſervatory is ſcrewed by means of ten long ſcrews, which paſs through the ends of the rafters at *F G H I K*, &c into iron nuts fixed in this upper ring for that purpoſe The rafters *M P*, *R P*, *I U*, *K L*, &c are attached to the crown-piece *P T U* by hinges, as repreſented at *T*, and *U*; and the two ſhort rafters *F Q*, *N O*, are attached to the two *R P*, *M P*, alſo by hinges at *O*, and *Q* By means of theſe hinges the roof is made to open or cloſe like an umbrella, and of courſe, if diſengaged from the circular ring *F R H*, &c will fold together, and may be packed up in a very ſmall compaſs

The covering of the roof is of very thick canvas, many times painted, and comes down ſo far as to hang over at the eves about four inches The crown-piece, *P T U*, is about eight inches in diameter, and covered with a circular piece of canvas like that the roof is covered with An eye-bolt *n* o paſſes through its center, and is faſtened on the inſide by the nut o This eye bolt is intended for the reception of the hook *n*, which is faſtened to the cord *m b g c d*, paſſing over a pulley at *W*, fixed in the top of the pole *I Z* Towards the bottom of this pole there is fixed a lever *g b*, by means of the clamp *e f*, and its fellow on the oppoſite ſide, and the lever, turns on the iron bolt *f* The cord *m b c d* paſſes through a hole *c* in the lever, and is drawn tight when the end *b* of the lever is turned upwards, and then made faſt Now if the end *b* of the lever be brought down towards *z*, and there faſtened by means of the

 becket,

becket, or endlefs cord *i k*, the roof of the Obfervatory will be drawn up from off the ring 1, 2, 3, &c. and may be turned round by twifting or untwifting of the cord, until the opening *N O P Q E* is towards the fun, or any other object, of which an obferva-tion is wanted to be made. When the obfervation is completed, the lever may be releafed, and the roof let down again to reft with its whole weight on the lower ring, as it will then be lefs liable to be difturbed by the wind: There are alfo eight fmall ftaples on the infide edge of the lower ring 1, 2, 3, &c. and as many fmall hooks, correfponding to them, on the upper, or that to which the rafters of the roof are faftened. Thefe hooks, when the roof is lowered down, are to be hooked into the ftaples, and the cord then drawn tight, to prevent, yet farther, the effect of the wind. The open-ing *N, O P, Q F*, is covered, when not in ufe, by the flap, or roll of fpare canvas *Q R G S*, which is of the fame fort, and painted in the fame manner, as that which covers the roof. The whole of this Obfervatory, except the three poles *W Z*, *W X*, and *W Y*, when taken down and packed up properly, is contained in a cheft fix feet and nine inches long, and about twenty inches fquare: The poles, which form the tripod, are of about fifteen feet long, and four inches diameter, may be laid amongft the fpare booms of the fhip, or if they fhould be thought too cumberfome there, may be cut out of the woods, or purchafed for a trifle at any place where they are wanted.

Of the Clocks.

BOTH Clocks were made by Mr. Shelton, being furnifhed with compound pendulums of that fort ufually called Gridiron Pendu-lums; and they efcaped dead feconds in the late Mr. Graham's manner. They were fixed up by means of an iron block and frame,

frame, which is reprefented in Fig 3 Plate I where *ABCD* is a flat block of caft iron, about three or four inches thick, two feet long, and 13 or 14 inches broad, weighing between three and four hundred pounds This block was laid horizontally on four wooden piles fhod with iron, and driven deep into the ground, where the foil admitted of it; and where it did not, was placed on the firm rock *EFGH* is a frame of wrought iron, about an inch fquare, every where except at the top *FG*, where it is about three inches broad, and three fourths of an inch thick, and it is fcrewed firmly to the block at *E* and *H* by the fcrews *a a* *IK* and *LM* are two braces of wrought iron, an inch fquare, fcrewed firmly alfo to the block at *I* and *K*, by the fcrews *n n*, and to the frame *EFGH* at *K* and *M* by the fcrews *o o* The bottom of the clock cafe refted on the flat horizontal furface *ILEH*, with its back againft the flat bar *FG*, to which it was fcrewed faft by two ftrong fcrews, paffing through the back-board of the cafe, and the mortices *S*, *S*

This method of fixing up a clock on temporary occafions, was the invention of the very ingenious Mr John Smeaton, F R S It has many advantages, as it may be fet up in an hour's time, and may be effected in many fituations, where the old method of letting down a poft could not be made ufe of, particularly in rocky places, which are often the only eligible fituations that can be found for obferving near the fea fhore, it alfo affords an exceeding fteady foundation, and is fubject to no inconvenience, that I know of, but the expanfion of the frame *EFGH* and braces *IK* and *LM*, which I found would be fometimes fo great as to lift the clock cafe entirely off the block *ABCD*, and thereby render it loofe, and fubject to acquire motion from the momentum of the pendulum This however may, I think, be completely remedied by having a crofs

croſs bar towards the bottom of the iron frame, as repreſented by the dotted lines *b c*, *d e*, to which the clock caſe may be ſcrewed faſt in the ſame manner as at the top, by ſtrong ſcrews and nuts paſſing through the back board and the mortices Q Q There will indeed one inconvenience ariſe from this mode of fixing the bottom of the caſe, namely, that the clock muſt be ſet perpendicular to the horizon, entirely by the driving of the piles on which the iron block lies, and which will be very troubleſome and very tedious to do, and of courſe take up much time, which in the caſes where this apparatus will be moſt wanted, is often extremely precious, and on that account I would propoſe that there ſhould be two ſtrong arms fixed to the croſs bar *b c*, *d e*, inſtead of the mortices Q Q, projecting forward, at ſuch a diſtance as to admit the clock-caſe freely between them In each of theſe arms ſhould be a pretty ſtrong ſcrew, and by eaſing one of theſe ſcrews, and tightening the other, the clock might very readily be brought perfectly upright, after the iron block had been laid nearly horizontal, and when it is ſo, both ſcrews may be made to preſs againſt the caſe with equal and a moderate force Another ſcrew might be added in the iron bar *b c d e*, if thought proper, to ſet it upright the other way, but this is not ſo neceſſary

As neither of theſe remedies were thought of at the time Captain Cook ſet out on his preſent voyage, it was thought adviſable to try other methods; and that repreſented in Plate II was made choice of to be uſed by the Gentlemen who make the Aſtronomical Obſervations in the courſe of the voyage which he is now gone upon; the firſt hint of which, except what is to be met with in the Appendix to my Lord Mulgrave's Voyage towards the North Pole, was from a drawing of Mr Bayly's, preſented to the Com-

miſſioners of Longitude, and by them put into the hands of Mr. Arnold, watch-maker, to execute, and who made ſome deviations from the original drawing, which he thought was for the better. In the engraving, μυφλ repreſents the Clock, ſupported clear of the ground, by the pieces ΦΩ, ΓΕ, ΣΘ, which are of mahogany, about two inches thick, and about two inches and a half broad, and ſcrewed firmly to the caſe of the Clock at Φ, Γ, and Σ, with ſtrong iron ſcrews, and nuts. Theſe pieces reſt on three oaken piles, Λ, Π, and Δ, drove deep into the ground, and may be raiſed or lowered by means of the ſcrews α, β, γ, as may be neceſſary, to bring the Clock-caſe to ſtand perpendicular. Two of thoſe pieces, ΦΩ, and ΣΘ, are ſcrewed to the two ſides of the Clock-caſe, very near the front, and juſt below the riſing-board, and the third ΓΕ, directly in the middle of the back-board, at exactly the ſame height with the other two. δε, Ωη, and ρϑ, are three horizontal braces of mahogany about two inches ſquare, morticed faſt into the pieces ΓΕ, ΦΩ, and ΣΘ, at δ, Ω, and ϑ, and force pretty hard againſt the caſe of the Clock at ε, η, and ρ, that is, δε directly againſt the middle of the back-board, and Ωη, ϑρ againſt the two fore corners of the caſe, the ends η and ρ of theſe two laſt being cut at an angle exactly to fit them. The caſe of the Clock, particularly the back-board, is made very ſtrong, and is but juſt of a height ſufficient to contain the pendulum.

Before I quit this ſubject, it may not be amiſs to take notice of ſome very extraordinary irregularities, which happened in the going of the Clocks, as well as to bring into one point of view their ſeveral rates of going at the different places where they were ſet up.

The Clock B, which, I believe, has not been remarked in the body of the Work, gained 5″,03 a day on fyderial time from March 28th to April 1ft, 1772, when fixed up at the Royal Obfervatory in Greenwich-Park, to pieces of wood let into the wall of the Obfervatory; that is, in the manner which the Tranfit Clock at that place is fixed up: and the Clock C loft 0″,373 a day on fyderial time from March 25th to March 28th, 1772, when fixed up at the fame place, and in the fame manner. The mean vibrations of the pendulum were 1°,53′ each way. This Clock, with the fame length of pendulum, loft 20″½ a day on fyderial time, from July 1ft to the 9th, 1772, at Drake's Ifland in Plymouth Sound, latitude 50° 21′½ N., and longitude 4° 16′½ W. of Greenwich; and the pendulum vibrated 1° 50′ each way.

At Fonchiale, in Madeira, latitude 32° 33′½ N., longitude 17° 11′½ W., B loft 36″,6, and C 1′ 15″ a day on fyderial time, from July 30th to Auguft 1ft, 1772: the pendulum of B vibrated 1° 40′ each way, and that of C 1° 53′.

At the Cape of Good Hope, latitude 33° 55′½ S., longitude 18° 23′½ E., B loft 1′ 15″,43, and C 1′ 27″,35, a day on fyderial time, from November 2d to the 14th, 1772: the mean vibrations of the former were 1° 37′½, and thofe of the latter 1° 43′½.

At Dufky Bay in New Zealand, latitude 45° 47′$\frac{1}{11}$ S., longitude 166° 18′ E., B gained 4″,066 on fyderial time, from April 5th to the 21ft, 1773; and its mean vibrations were 1° 35′ each way.

At Queen Charlotte's Sound in New Zealand, latitude 41° 6′ S., longitude 174° 18′½ E., C loft 1′ 29″,003 a day on fyderial time, from April

April 20th to May 20th, 1773; and its mean vibrations were 1° 52′ each way This Clock went here with greater regularity from day to day than it had done at any other place, except that some time in the night between the 14th and 15th of May, it seems to have stopped exactly 12″, which is a most extraordinary circumstance, especially when we consider Mr Bayly's remark on that head, p 36 and no way, that I know of, to be accounted for

At Point Venus in Otaheite, latitude 17° 29′$\frac{1}{2}$ S, longitude 210° 25′ E, B lost 1′ 28″,42, and C 2′ 10″69 a day on sydereal time, from August 27th to the 31st, 1773 the pendulum of the former vibrated 1° 39′, and that of the latter 1° 46′$\frac{1}{2}$ each way

At Queen Charlotte's Sound, B lost 21″,116 a day, from November 6th to the 22d, and vibrated 1° 38′ each way and C lost at the same place 1′ 8″,47 a day, from December 7th to the 15th, 1773; and its pendulum vibrated 1° 46′ each way The ball of the pendulum was now about 7 feet above the sea at low-water mark when here before, it was about 84$\frac{1}{2}$ feet above it

At the Cape of Good Hope this Clock lost 1′ 36″,016 a day on sydereal time, from March 23d to the 28th, when Mr Bayly removed the Observatory and Clock to another part of the garden, after which, from the 28th to April 10th, 1774, it lost at the rate of 1′ 17″,71 on sydereal time I have remarked in p 76 that Mr Bayly says, he is absolutely certain no alteration happened in the length of the pendulum, and I make no doubt but that he examined it with the utmost attention but if some alteration in its length did not take place, and which, I think, might possibly happen, without his being able to discover it, it is utterly impossible to account for so great and sudden a change The pendulum vibrated 1° 46′ each way

The

The Clock B loſt 1′ 22″,64 a day on ſyderial time at Otaheite, latitude 17° 29′½ S., and longitude 210° 25′ E., from April 23d to May 9th, 1774; but I here reject its loſs between April 30th and May 1ſt, as it appears to have loſt exactly 1′ more on that day than on any other; a circumſtance I cannot account for *properly*, as I never, that I know of, left the caſe or face of the Clock unlocked. There is, however, little doubt but that ſome *witty* Gentleman or other found means to open it, and put the Clock a minute back, I ſuppoſe, to try whether or no the *Aſtronomer* could find it out. The vibrations of the pendulum were 1° 35′ each way until April 30th, on which day they dropped to 1° 30′, and after that decreaſed gradually, ſo that on May 7th the vibrations were no more than 1° 15′. I could find no viſible cauſe for this alteration; the Clock was not more than ⅟₃ down: however, I wound it up, and in a few hours it increaſed its vibrations again to 1° 35′, and continued to vibrate over that arch until it was taken down on May 10th.

On ſetting it up a ſecond time at Queen Charlotte's Sound in New Zealand, I had much trouble in getting it to go at all, as moſt of its parts, and particularly the ſteel rods of the pendulum, were covered with ruſt. It loſt at the rate of 15″,58 a day on ſyderial time, from October 22d to November 5th, 1774, and went pretty regularly after I did get it to go. I here added freſh oil, and its vibrations were then 1° 37′½ each way.

At Chriſtmas Sound in Terra del Fuego, latitude 55° 22′ S., longitude 289° 58′½ E., B gained 36″,52 a day on ſyderial time, between December 23d and 26th, 1774; and the mean vibrations of the pendulum were 1° 37′½ each way. This was the higheſt latitude that I had an opportunity of trying it in.

March 23d,

March 23, 1775, I fet B up a fecond time at the Cape of Good Hope, and from that time to April 23, it loft at the rate of $42'',207$ a day on Syderial time the pendulum vibrated $1^\circ\ 37'$ each way from the perpendicular until April 9, and after that time $1^\circ\ 40'$ Thefe matters are brought yet nearer into one point of view in the following table

Places	Clock B gains or lofes on Syderial Time ′ ″	Latitude ° ′	Longitude ° ′	Time.
Greenwich	+0 5,03	51 28 N	0 0	March 1772
Madeira	—0 36,6	32 33 N	17 11 W	July 1772
Cape of Good Hope	—1 15,43	33 55¼ S	18 23 E	November 1772
Ditto	—0 42,21			April 1775
Dufky Bay	+0 4,07	45 47 S	166 18 E.	April 1773
Point Venus	—1 28,42	17 29 S	210 25 E	Auguft 1773
Ditto	—1 22,64			May 1774
Queen Charlotte's Sound	—0 21,12	41 6 S	174 18 E	November 1773
Ditto	—0 15,58			October 1774
Terra del Fuego	+0 36,52	55 22 S	289 58	December 1774

Places	Clock C lofes on Syderial Time	Latitude	Longitude	Time
Greenwich	—0 0,37	51 28 N	0 0	March 1772
Drake's Ifland	—0 20,62	50 21 N	4 16 W	July 1772
Madeira	—1 15,0	32 33 N	17 11 W	July 1772
Cape of Good Hope	—1 27,35	33 55¼ S	18 23 E	November 1772
Ditto	—1 36,02			March 1774
Ditto	—1 17,71			April 1774
Queen Charlotte's Sound	—1 29,0	41 6 S	174 18 E	May 1773
Ditto	—1 8,47			December 1773
Point Venus	—2 10,69	17 29 S	210 25 E	Auguft 1773

On reconfidering the circumftance of the Clock's different rates of going at the Cape of Good Hope in November 1772 and April 1775, I am rather inclined to alter my opinion, (fee p 131) and to

conclude

conclude that I made a miſtake in ſetting the pendulum to its proper length, either when here in November 1772, or at Duſky Bay in New Zealand, after which time it was never altered; eſpecially as the difference correſponds nearly to that which would ariſe from a whole revolution of the nut which ſupports the ball of the pendulum, namely 28″, or 29″, increaſed by the ſame quantity that the Clock had gone faſter on being ſet up a ſecond time both at Point Venus and Queen Charlotte's Sound: and it appears farther, by comparing its rate of going at the Cape with its rate at Madeira, which is nearly in the ſame latitude, that if this was the caſe, the miſtake muſt have happened on ſetting it up in November 1772. Now if this correction be allowed, this Clock will have agreed with itſelf as near, perhaps, as muſt ever be expected for any clock to do; eſpecially when ſet up at ſuch diſtant times, and put away, in the intervals, in damp and improper places, as will ever be the caſe on board ſhips, unleſs a proper place be made and fitted up on purpoſe for it: and this I think might readily be done on board any ſhip; in which caſe, it may not be uſeleſs to add, that this place muſt not be near either ſide of the ſhip, nor near the fore-part of it; and muſt be well lined with ſtrong painted canvas, and over that with thick baize. A ſpace of 20 inches, by 15 broad, and 4¾ feet high would be fully ſufficient for the purpoſe.

The aſſiſtant clock had a ſimple pendulum, whoſe rod was of white deal, and was always adjuſted ſo that it would beat with the Aſtronomical Clock without ſenſible deviation for ſeveral minutes together; it ſhewed only minutes and ſeconds, was wound up in the common way that 24 hour clocks generally are, by pulling at the ſtring, and conſtructed to give a very loud beat, and to ſtrike with great exactneſs at the end of every minute, for the

convenience

convenience of catching the second with more certainty in observing The loudness of the beat is of great use when the wind is high; or when, on account of any other noise or disturbance, the Astronomical Clock cannot be heard, and was particularly useful to us, whose Observatories stood generally on the sea-shore, where the roaring of the surf seldom permitted us to hear the Astronomical Clock all the time it was going

Of the Transit Instrument

THIS Instrument being now too well known to require a general description, I shall only just mention some particulars which are peculiar to that we made use of, and the manner of fixing it up The object glass of the telescope, which was achromatic, was of $3_{\frac{1}{2}}$ feet focus, and aperture $3_{\frac{1}{2}}$ inches it magnified about 50 times The axis rested on two angular pieces of bell-metal, which were attached to two strong plates of brass, about six inches square; and these plates were let into two posts of Riga timber, six inches by eight, and screwed firmly to them by strong screws which came quite through the posts from the opposite side to that which the brass plates were let into The angular pieces of bell-metal were made to slide on the brass plates, one in a vertical, and the other in an horizontal direction, by means of very fine steel screws, in order to adjust the Instrument, and bring it into the plane of the meridian The posts had each of them a double tenon at the bottom, which fitted into two double mortices in a sill of the same timber, 10 inches by six or seven, and five feet in length, and they were braced together about three feet above this sill by a horizontal brace, and at the angles by cross braces, When

When the Inſtrument was to be ſet up, a hole was dug five feet long, about 15 or 16 inches wide, and three feet deep, in a direction at right angles to the meridian; and the poſts and ſill, thus braced together, let carefully down into it, the Inſtrument was then put into its place, and directed to a mark which had before been determined to be in the meridian by means of the Azimuth Compaſs, after allowing for the variation, by moving the frame a little one way or other in the hole as might be required, and after that, the axis was made horizontal by hanging on the ſpirit level intended for adjuſting the Inſtrument, and raiſing one end of the ſill, or lowering the other, as was moſt convenient, until both ends of the axis were of the ſame height. The hole was then filled with earth and ſtones intermixed, and well rammed in, taking great care, in this operation, not to twiſt, or force the frame out of the plane of the prime vertical, by frequently putting the Inſtrument into its place, trying the level, and directing the teleſcope to the mark. This being done, the nicer adjuſtments of the Inſtrument were made by means of the ſcrews which govern the two angular pieces of bell-metal on which it reſts; and I never found that the Inſtrument, thus ſet up, would vary materially in its poſition.

Of the Aſtronomical Quadrant.

THIS inſtrument has been ſo well, and ſo fully deſcribed by the Rev. Mr. Maſkelyne, Aſtronomer Royal, in his inſtructions relative to the obſervation of the Tranſit of Venus (See Nautical Almanac for 1769), that little remains to be ſaid on this head. It may not however be amiſs to mention a circumſtance or two wherein my inſtrument appears to have differed from that which Mr. Maſkelyne deſcribed. And firſt, the arch of exceſs of my Quadrant, or that which

most exquisite ones, and furnished with moveable polar axes, for the convenience of adapting them to any latitude whatsoever

Of the Hadley's Sextants

Of these we had each of us two, one made by Mr Dollond, with his new apparatus for adjusting the back horizon glass, and the other by Mr Ramsden The latter was made by order of the Royal Society, in 1768, and I had before used it in my Voyage to and from Hudson's Bay, and knew its value Its radius was 15 inches, and it was cut out of one solid plate of hammered brass, about one ninth of an inch thick, leaving only the frame and cross-braces of about one inch and one-third broad, and these were supported on the back with perpendicular, or, as they are usually called, edge-bars, screwed very firmly thereto by screws, which passed through the frame of the Sextant into the bars themselves The index also was very broad and strong, and stiffened by a perpendicular bar, that was screwed fast on its upper side The massiveness of these bars and frame rendered the instrument rather heavy, but I have never met with one that preserved its figure, plane, and adjustments, so well as this did, and these properties are so very essential, that I think they should never be given up, or even run the least risk of having impaired, for the trifling consideration of reducing the weight of the instrument a few ounces, which I never found in the least inconvenient, after I became used to it This instrument had some disadvantages, which are now generally remedied, such as the smallness of the horizon-glass; and, what is much worse, that glass, small as it was, did not reflect a full field of view when the index was put back to its

greatest

on account of my want of time to consult a greater number of Authors, be comprised in a small compass

I have not been able to meet with the least hint of any Astronomical Instrument being used at sea before the latter end of the 15th century; about which time, as *Jo Pet Maffeius* tells us in his *Histor Indic Martin de Bohemia*, a disciple of *Regiomontanus*, recommended the Astrolabe for taking altitudes on board a ship, but, whether this was then put in practice, does not appear, and it seems much to be doubted, whether the cross-staff, which was invented about that time, or very soon after, was not the first Astronomical Instrument used at sea this at least is certain, that all the old writers, whom I have met with, speak of the cross staff as a very ancient instrument, except *John Werner* of Nuremberg, and who, as far as I can find, is the first person that has described it; but it does not appear to me, from what he there says, that he was the inventor, but rather that he looked on it as an instrument in some measure then known, and he recommends it to seamen, as proper for observing the distance of the Moon from the Sun, or a Star, in order to determine the Longitude at sea *Werner*'s book was printed in 1514, and I find the same instrument again recommended, and for the same purpose, by *Peter Apian*, in his Cosmography, which, by the date of his preface, appears to have been written in, or before the year 1524 About this time the method of finding the Longitude at sea by observations of the Moon's distance from the Sun or Stars is mentioned by several authors, and particularly by *Gemma Frisius*, in his *Principia Astronomiæ et Cosmographiæ*, printed in 1530, who also mentions the doing of it by means of a Clock or Time keeper He was also, if I mistake not, the first person who added three transums to the cross staff, which

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vations on the use of this instrument, among which is a method of correcting the error arising from the excentricity of the eye, and after mentioning this method of dividing very particularly, adds, " I freely confess that this method of dividing the staff into many sensible parts was not invented by me, *but had been long used in England* by many skilful mathematicians The first who used it, as I am well informed, was Richard Chanceler, a most skilful and ingenious mathematical instrument-maker, and whose name I more readily publish, as he is now dead, and has left behind him no memorial of his excellency, except some instruments fabricated with the greatest art and exactness, and the sweetest memory of his usefulness and skill in the minds of a few mathematicians yet alive'

I have been thus particular, because *Tycho Brahe*, at p 403 of his works, published at Franckfort in 1648, giving an account of the same star, takes notice of this passage of Mr Digges's, and adds, " But when I studied at *Leipsic* about twenty eight years ago, I used a cross-staff thus divided, which I had out of the shop of that excellent mathematician *Homelius*, by favour of his servant *Bartholomew Schultet* but whence *Homelius* had this, or whether he himself invented it, is with me uncertain " It is plain, from the very words here made use of, that *Tycho* meant to dispute the claim set up by Digges, for his deceased friend, to the invention, but I think with little probability of success for *Tycho* did not go to *Leipsic* before the year 1562, or 1563, as we learn from the account of his life, written by *Gassendus*, and *Tycho* himself, in his epistle to *Christopher Bothman*, written in 1587, and printed at Uranibourg in 1596, says he was then about seventeen years old; which, as he was born in the year 1546, must have been in 1563, that is, about ten years only before Mr Digges wrote Now Digges expressly says, that the

inventor

printed at Bruffels in 1631 In the preface to this publication *Vernier* claims the invention as his own, and very juftly obferves that by this method, minutes are eafily diftinguifhed in qs, add of three inches radius, the truth of which I have myfo maren often convinced of in inftruments of Mr Ramfden s making *n E*

The fore ftaff and aftrolabe appear to have been the only inftruments that were ufed at fea before the latter end of the fixteenth century, about which time the back-ftaff, as it was then called, on account of the obferver's ftanding with his back to the fun, began much to be made ufe of This inftrument was invented by the celebrated Captain John Davis, who gave name to the Straits which feparate Weft Greenland from America, and was by him firft defcribed, in a little book called the Seaman's Secrets, publifhed in 1594, but this book I have not been able to meet with, however, there is a defcription of the inftrument, together with a reprefentation thereof, given by *Adrian Metius*, in his *Aftronomia Inftitutio*, printed in 1605, and afterwards in his tract *De Arte Navigandi*, publifhed at *Franckfort* in 1624, alfo in his *Doctrinæ Sphericæ*, lib 5 publifhed at the fame place, in 1630

Originally this inftrument had but one arch, namely, that on which the fight-vane flides, and the fhade-vane was fixed on a ftraight rod, morticed into the upper fide of the radius of the inftrument, at a greater diftance from the center, or horizon vane, than the arch itfelf but it did not long retain that form, for about the year 1600, or foon after, the arch was extended up to 90°, partly below, and partly above the radius, and the fhade-vane fixed on that, to any propofed, even degree that was found moft convenient, and in this ftate it was generally known by the name of the bow It was not, however, many years before it under-

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ſome others, and the laſt, the plough, Elton's, and many other quadrants none of which remained long in uſe, and very few deſerved to have been uſed at all

I come now to relate the inventions of inſtruments for meaſuring angles by reflection, the firſt hint of which was, I am firmly perſuaded, given by that truly ingenious and indefatigable mechanician, Dr Hooke, about the year 1681, as appears from Dr Birch's Hiſtory of the Royal Society, vol iv p 102, and alſo from his Life and Poſthumous Works, p xxiii and 503, publiſhed by R Waller, Eſq, in 1705; but the angles, in his inſtrument, being meaſured by one reflection only, rendered it not ſo convenient for ſea purpoſes as it would otherwiſe have been The next who *publiſhed* any thing on this head, was John Hadley, Eſq, Vice preſident of the Royal Society, and at that time famous for having perfected, and brought into uſe, the reflecting teleſcope This Gentleman, on the 13th of May 1731, preſented to the Royal Society an inſtrument conſtructed in pretty near the ſame form that they now are, and alſo a deſcription of the ſame, in which he gave a very full account both of the theory and manner of uſing this inſtrument But although Mr Hadley was the firſt who publiſhed, yet it is no leſs certain that the incomparable Sir Iſaac Newton had long before that time invented an inſtrument of this kind differing little from that of Mr Hadley's, except in the manner of applying the teleſcope But this, like many other of Sir Iſaac's diſcoveries, was not publickly known till ſeveral years afterwards, namely on the death of Dr Halley in 1742, when a paper, in Sir Iſaac's own hand writing, containing a deſcription of the inſtrument, was found amongſt the papers of that gentleman, and it was publiſhed, together with a drawing of the inſtrument, in N° 465 of the Philo-

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printed at Brussels in 1631. In the preface to this publication *Vernier* claims the invention as his own, and very justly obser[illegible] that by this method, minutes are easily distinguished in q[illegible], adds a of three inches radius, the truth of which I have mys[illegible] man[illegible] often convinced of in instruments of Mr Ramsden's making. *Ed.*

The fore staff and astrolabe appear to have been the only instruments that were used at sea before the latter end of the sixteenth century, about which time the back-staff, as it was then called, on account of the observer's standing with his back to the sun, began much to be made use of. This instrument was invented by the celebrated Captain John Davis, who gave name to the Straits which separate West Greenland from America, and was by him first described, in a little book called the Seaman's Secrets, published in 1594; but this book I have not been able to meet with; however, there is a description of the instrument, together with a representation thereof, given by *Adrian Metius*, in his *Astronomia Institutio*, printed in 1605, and afterwards in his tract *De Arte Navigandi*, published at *Franckfort* in 1624, also in his *Doctrinæ Sphericæ*, lib. 5. published at the same place, in 1630.

Originally this instrument had but one arch; namely, that on which the sight-vane slides, and the shade-vane was fixed on a straight rod, morticed into the upper side of the radius of the instrument, at a greater distance from the center, or horizon vane, than the arch itself. but it did not long retain that form; for about the year 1600, or soon after, the arch was extended up to 90°, partly below, and partly above the radius, and the shade-vane fixed on that, to any proposed, even degree that was found most convenient; and in this state it was generally known by the name of the bow. It was not, however, many years before it under-

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went another alteration, and received its preſent form. For the ſhade vane being then placed at a great diſtance from the horizon vane, the penumbral ſhade became ſo extenſive, that neither its beginning, end, or center, could be judged of with any tolerable degree of certainty; and what was yet worſe, if the ſun did not ſhine very bright indeed, the ſhadow could not be ſeen at all: it was therefore deemed neceſſary to leſſen the radius of that part of the arch on which the ſhade vane is fixed, in order to obtain a more diſtinct, and ſtronger ſhadow. It is not now known to whom we owe theſe improvements: ſome think they were made by the inventor himſelf; but this I much doubt. The laſt improvement that was made to this inſtrument, at leaſt of any conſequence, was the ſubſtitution of a lens, whoſe focal length was juſt equal to the radius of the leſſer arch, inſtead of the ſhade-vane. This, although in itſelf ſo ſimple, was a very conſiderable improvement to the inſtrument; for the ſpot of light, formed on the horizon vane in the focus of the glaſs, will be bright enough to be ſeen very diſtinctly, when the ſun is ſo very faint that the leaſt trace of the ſhadow from the vane cannot be diſcerned. It is ſaid poſitively, at p. 250, vol. 1 of Sir Jonas Moore's New Syſtem, that this was the invention of Mr. Flamſted the firſt Aſtronomer-Royal; but others ſay it was contrived by the late Dr. Edmund Halley, and adapted to that inſtrument in his voyage to the Iſland of St. Helena in 1677. It is not improbable that both might think of it.

Theſe three inſtruments, namely the aſtrolabe, fore-ſtaff, and Davis's quadrant, underwent many other alterations, and appeared under a great variety of ſhapes that are not taken notice of above. From the firſt came the ſemi-circle, the ſea-rings, and ſea quadrant; the ſecond produced the demi-croſs, Mr. Hood's ſtaff, and

ſome others; and the laſt, the plough, Elton's, and many other quadrants: none of which remained long in uſe, and very few deſerved to have been uſed at all.

I come now to relate the inventions of inſtruments for meaſuring angles by reflection, the firſt hint of which was, I am firmly perſuaded, given by that truly ingenious and indefatigable mechanician, Dr. Hooke, about the year 1681; as appears from Dr. Birch's Hiſtory of the Royal Society, vol. iv. p. 102, and alſo from his Life and Poſthumous Works, p. xxiii and 503, publiſhed by R. Waller, Eſq; in 1705; but the angles, in his inſtrument, being meaſured by one reflection only, rendered it not ſo convenient for ſea purpoſes as it would otherwiſe have been. The next who *publiſhed* any thing on this head, was John Hadley, Eſq; Vice-preſident of the Royal Society, and at that time famous for having perfected, and brought into uſe, the reflecting teleſcope. This Gentleman, on the 13th of May 1731, preſented to the Royal Society an inſtrument conſtructed in pretty near the ſame form that they now are, and alſo a deſcription of the ſame; in which he gave a very full account both of the theory and manner of uſing this inſtrument: But although Mr. Hadley was the firſt who publiſhed, yet it is no leſs certain that the incomparable Sir Iſaac Newton had long before that time invented an inſtrument of this kind, differing little from that of Mr. Hadley's, except in the manner of applying the teleſcope. But this, like many other of Sir Iſaac's diſcoveries, was not publickly known till ſeveral years afterwards; namely, on the death of Dr. Halley in 1742, when a paper, in Sir Iſaac's own handwriting, containing a deſcription of the inſtrument, was found amongſt the papers of that gentleman; and it was publiſhed, together with a drawing of the inſtrument, in N°. 465 of the Philo-

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ſophical Tranſactions for the year 1742. As there was no date to this paper, the exact time of Sir Iſaac's diſcovery cannot now be aſcertained: there is not, however, the leaſt doubt of its being long prior to Mr. Hadley's in 1731, as Sir Iſaac Newton died in 1727, and for ſome years before, had not thought much of theſe things; it is therefore matter of much ſurprize that Dr. Halley ſhould not recollect, and produce this paper of Sir Iſaac's, when Mr. Hadley's was publicly read, and thereby ſecure to his, then lately deceaſed, and ever to be admired friend, the prior invention of this moſt excellent inſtrument, to which he had, without doubt, an inconteſtible right. It is alſo moſt probable that Dr. Halley could have decided whether or not Sir Iſaac's thought was prior to Dr. Hooke's in 1681, as Mr. Stone will have it in his Appendix to the Tranſlation of Bion's Inſtruments, where he ſays, "The firſt of theſe inſtruments for taking the moon's diſtance from the ſun, was invented long ago by Sir Iſaac Newton, as appears in a paper of Sir Iſaac's own hand writing, found amongſt thoſe of the late Dr. Halley, and the very inſtrument itſelf, that Sir Iſaac either made, or cauſed to be made, ſo long ago as when Dr. Halley went about making the catalogue of the ſtars in the Southern hemiſphere, which was in the year 1672, was not long ago to be ſeen at Mr. Heath's in the Strand." But little dependence can be placed on what he has here advanced. That an inſtrument of this kind may have ſome time been made by Sir Iſaac's direction, is very probable, but not at the time here mentioned: for in the firſt place, Dr. Halley did not ſet out for Saint Helena until the latter end of 1676, that is, at leaſt four years after the time mentioned by Stone: and it is almoſt as certain, that when he did go, he had no inſtrument like this with him, becauſe in his Tract entitled *Catalogus Stellarum Auſtralium*, publiſhed after his return, in 1679, and which is now before

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me, he gives a list of the instruments that he was provided with on that occasion, in which no instrument of the kind appears; and it is scarcely to be credited that he would leave out of the catalogue an instrument which he must have found so useful, and that had been invented by so great a man, expressly on that occasion, and for the purpose of observing the moon's distance from the sun and stars, if any such instrument had at that time existed; and more especially, as it is well known that the Doctor had always that method of finding the longitude much at heart, and he repeatedly mentions it in this publication *.

If this instrument was ever made at all for Dr. Halley, it is most probable that it was done about the time when he went, in the Paramore Pink, to observe the variation of the compass; that is, in the years 1698, 1699, and 1700: although I cannot help thinking that if he had then had any instrument of the sort, he would have left some account of its success in his journals, which, as far as I can find, he has not done.

The principle on which this most excellent instrument is founded, is so natural and obvious, that no less than five persons have come to my knowledge, exclusive of Dr. Hooke, who used but one reflection, that have invented and made it, independent of one another; and that nearly in the same form. After Sir Isaac Newton and Mr. Hadley, or rather before the latter, Mr. Thomas Godfrey of Philadelphia, invented a quadrant to measure angles by reflec-

* Since writing the above, I have been informed that at the time when Mr. Hadley's paper was read, Dr. Halley did declare he had one of Sir Isaac Newton's, describing an instrument similar to Mr. Hadley's, and which was given to him in 1700, or 1701; but that he did not then know where to find it.

tion, which was sent to sea about the latter end of the year 1730 but I cannot find with what success, nor yet in what manner it was constructed, whether he used two reflections or only one The next, in point of time, was the late Joseph Harris, Esq, sometime Warden of the Mint, and who, as I have been very credibly informed, invented an instrument of this sort, without knowing that any thing of the kind had been done before And, lastly, it incontestably appears, from several letters to the late Rev Mr Rowning, that the same thing was again done, about the years 1752 or 1753, by Mr George Holroyd, a very ingenious mechanician, then of the city of York, but now of Great Queen-street, Lincoln's-Inn Fields, together with some ingenious improvements, which shall be mentioned hereafter

But, notwithstanding these inventions of private gentlemen, which were laid aside as soon as the respective authors came to know what had been done by others, who had gone before them, few or no attempts were made towards improving the construction of this instrument from the time of its discovery by Mr Hadley, until after the year 1745, about which time his patent ended, and the only contest among the generality of instrument-makers, after it got into their hands, was to try who could make it for the least money; which, it will readily be conceived, did not add much to its accuracy Indeed, to such a deplorable state was this most excellent instrument reduced about the year 1750, that *M De la Caille* assures us in his *Ephemerides des Mouvemens Celestes* for the years 1755 to 1765, two persons, observing at the same time, with two of the best quadrants that *they* had, and with the greatest care, would frequently differ 6, 7, and even 8 minutes, in the sun's altitude We may indeed conclude, that either these instruments were made in France,

or

or that proper care had not been taken in procuring them from good makers in England; for at all times instruments, sufficiently exact for observing altitudes, were to be had here, either from Mr. Jackson, who had made them for Mr. Hadley, under his patent; or, after his decease, from Mr. Bird.

The first persons, that I know of, who applied this quadrant to the actual measuring of distances, were Dr. Bradley, then Astronomer Royal at Greenwich, and Capt. John Campbell of the Royal Navy. The latter, about the year 1747, having, for his own amusement, measured the distances of several fixed stars with a quadrant of Jackson's making, shewed them to Dr. Bradley, who found them to correspond very exactly with their true distance in the heavens: and after this time, those gentlemen frequently made observations of the moon's distance from the sun and stars, and also of stars from one another, in company at Greenwich. In the course of these transactions, Dr. Bradley shewed Capt. Campbell an instrument, which had been contrived on purpose for making these observations by Mr. Hadley, and which was something like the Newtonian form; only the small speculum was made to slide in a grove, so as to stand either to the right or left of the great one, for the convenience of measuring the moon's distance from objects on both sides of her, without turning the plane of the quadrant downwards, as is now done, and which at that time was thought very inconvenient. Dr. Bradley had also by this time greatly improved Dr. Halley's Lunar Tables, and began to entertain great hopes of effecting thereby the so much wished-for method of finding the longitude at sea, by observations of the moon's distance from the sun and fixed stars; and the rather, as Mr. Bird had now begun to apply himself to improve the Hadley's Quadrant, in which,

which, the principal defect, then complained of, was its bending when inclined out of a vertical position, and he succeeded so well, that in the year 1750, the late ingenious Mr Benjamin Robins made those observations with great success, in his voyage to the East Indies, with quadrants of only 7 inches radius

The illustrious Sir Isaac Newton had, long before, laid the foundation of the Lunar theory in his *Philosophiæ Naturalis Principia Mathematica* and about this time, many learned persons, both at home and abroad, turned their thoughts, either towards explaining and reducing that theory into tables, or to the making of observations for establishing those points which theory alone could not give, as well as for perfecting and examining the tables after they were made: for experience had by this time abundantly shewn, that accurate tables were not to be expected from theory alone. Amongst those who have exerted their talents this way, we may particularize the Rev Dr. Bradley and Mr Thomas Simpson at home; and the celebrated *Euler*, *Clairaut*, *Mayer*, *D'Alembert*, *Walmsley*, and many others, abroad Of those who applied themselves to the practical part, none did so much as our countryman Dr Bradley, whose skill, accuracy, and assiduity in the making of observations, undoubtedly left all his contemporaries far behind, but it must be owned, on the other hand, that the foreign mathematicians far outstripped us in the business of theory; owing, no doubt, to the diligence with which they have cultivated the modern method of analysis Amongst those, none have distinguished themselves more than Messrs *Euler*, *Clairaut*, and *Mayer*; and if the two former have, in some respects, shewn greater depths of mathematical knowledge, the last has been much more happy in a skilful arrangement of his tables, for the ease and expedition of computation.

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In confequence hereof, M. *Euler* publifhed his Lunar Tables in the *Almanac Aftronomique*, printed at Berlin for the year 1750; M. *Clairaut*'s Tables came out in the year 1752, in anfwer to the Prize Queftion, which had been propofed by the Imperial Academy of Peterfburgh in 1750; and M. *Mayer*'s, in the Gottingen Acts for 1753; in which he not only excelled both the former in eafe and elegance of computation, but in exactnefs alfo; owing, perhaps, in fome meafure, to the ufe which he made of a number of Dr. Bradley's obfervations, that had been fent by the late Mr. Gael Morris to M. *Euler*; and by him given to M. *Mayer*. In thefe Tables, the errors in longitude no where amounted to more than two minutes: and having yet farther improved them in 1755, he fent them over to the Right Honourable the Lords Commiffioners of the Britifh Admiralty, with a claim to fuch part of the reward, offered by Parliament for the difcovery of the longitude at fea, as they might be thought to deferve. He alfo fent over at the fame time a drawing and defcription of an inftrument for meafuring angles by reflection; both of which are inferted at the end of his Lunar Tables, fince printed by order of the Commiffioners of Longitude. This inftrument is chiefly calculated to obviate the errors which might arife in fetting off the total arch in inftruments lefs than a complete circle, as well as the irregularities that may happen in the intermediate divifions.

Thefe Tables were very carefully compared by Dr. Bradley with a great number of obfervations of the moon, made by himfelf at Greenwich, with the new inftruments; and he fays, that "in more than 230 comparifons they no-where differed from the obferved longitudes fo much as one minute and an half." As this quantity included both the error of the Tables and that of the Obfervations

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alſo, Dr Bradley inferred that the Tables muſt have generally given the moon's place true within little more than a minute of a degree, and therefore that the difficulty of finding the longitude at ſea, by obſervations of the moon, ſo far as related to the accuracy of the Tables, was in a great meaſure happily got over, and that it only remained to prove whether or not the neceſſary obſervations could be made at ſea with ſufficient accuracy

In conſequence of this repreſentation, the Commiſſioners of Longitude ordered two of Mr Mayer's circular inſtruments to be made, by Mr Bird, and Captain Campbell, who had before given indubitable proofs of his ſkill and exactneſs in making obſervations of this ſort, was deſired to make trial of them at ſea, as well as of Mr Hadley's quadrant Accordingly, this excellent obſerver, and alſo Mr John Bradley, nephew to Dr Bradley, and now ſecond Maſter at the Royal Academy at Portſmouth, made a great many obſervations of the moon's diſtance from the ſun and fixed ſtars, in the years 1757, 1758, and 1759, which were afterwards computed by Dr Bradley, and found to correſpond, in a moſt ſurpriſing manner with one another, and alſo with the longitudes of known places, within ſight of the ſhip when the obſervations were made In the courſe of theſe trials, it did not appear that the Hadleys quadrants were liable to any conſiderable errors, of the kind that Mr Mayer's inſtrument was intended to remove, and as that inſtrument is very limited in the extent of its radius, without becoming heavy and inconvenient, it was then totally laid aſide.

In this ſtate were theſe matters ſituate in the year 1760, when all the learned Societies and Academies of Europe began to prepare for obſerving the Tranſit of Venus, over the Sun's diſc, in 1761; which

which our learned countryman, Dr. Edmund Halley, had, with immortal reputation to himſelf, foretold, and ſhewn the uſe which Aſtronomers might make of it, more than eighty years before it happened. This was a favourable opportunity for all thoſe who were employed to make that important obſervation, and had the method of finding the longitude at ſea by obſervations of the moon at heart, to exert themſelves in reducing, and bringing it into practice: and in this reſpect none exerted themſelves more, or with greater ſucceſs, than our preſent Royal Aſtronomer, the Reverend Nevil Maſkelyne. This ingenious and learned Gentleman, not only made a great number of thoſe obſervations with ſucceſs himſelf, but alſo ſo far convinced the officers of the ſeveral ſhips, which he failed in, of the eaſe and certainty wherewith they could be made, and the utility they were of, that the method ſoon came almoſt univerſally into uſe in the Eaſt India Company's ſervice, and has now been long eſtabliſhed, as a branch of knowledge, abſolutely neceſſary, in their naval officers. On his return home, he publiſhed the methods he had made uſe of, together with many excellent modes of abbreviating the computations, which at that time were tedious enough, and not to be effected with leſs than three or four hours labour by the moſt ſkilful computer, under the title of The Britiſh Mariner's Guide to the Diſcovery of the Longitude at Sea. In the ſame work he gave ſeveral methods, which before that time were not generally known, or made uſe of, for adjuſting, and examining the Hadleys Quadrant with greater accuracy, as well as many other curious and uſeful hints, not ſo immediately relating to the ſubject before us, but which are nevertheleſs of great conſequence to the mariner, and I believe now frequently uſed. Laſtly, he recommended the publication of a Nautical Almanac, on a plan

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ſomething ſimilar to that which had formerly been ſuggeſted by *M De la Caille*, on which account he preſented his book to the Commiſſioners of Longitude for their concurrence therein

In the mean time we had the misfortune to loſe two of the greateſt Aſtronomers that perhaps the world had ever produced, and who, of all men, had done moſt towards promoting and perfecting this method, namely, the Reverend Dr James Bradley, Aſtronomer Royal at Greenwich, and Savilian Profeſſor of Aſtronomy at Oxford, and Mr Tobias Mayer, Profeſſor of Oeconomy in the univerſity of Gottingen, and author of the Lunar Tables, which have already been mentioned The latter having been furniſhed with moſt excellent inſtruments, made by the late Mr Bird, through the munificence of his late moſt gracious Majeſty King George the Second, to the uſe of which he applied himſelf with unremitting ardour, had, by comparing his obſervations made therewith, as well as thoſe which he had formerly received from his ingenious contemporary Dr Bradley, with the numbers reſulting from the theory, ſo far perfected the Lunar Tables before his death, that his widow was enabled to ſend over, in 1763, a ſet that did not differ more than one minute of a degree from any of Dr Bradley's obſervations, except in a very few inſtances, moſt of which had been marked by the obſerver as very dubious obſervations; but in much the greater number, the errors did not amount to quite half a minute

The compariſons of theſe new Tables with Dr Bradley's obſervations were made by the late very ingenious Mr Gael Morris, and who, by comparing the Tables which Mayer firſt ſent over with Dr Bradley's obſervations, and altering the maximums of the equation where the obſervations ſeemed moſt to require it, had at that time

time composed Tables of the moon's motions, which at all times give the moon's place in the Heavens to a very great degree of exactness: but having been indebted to Mr. Mayer both for his form and theory, he would never be prevailed on in his lifetime to let them be made public, lest they might be thought to interfere in the claim set up by that deserving Astronomer, to the reward granted by Parliament for the discovery of the longitude at sea.

The accuracy of the Tables, and the practicability of making the observations, being thus ascertained, many ingenious Gentlemen began to turn their thoughts towards reducing the length and difficulty of the computations; amongst whom, my truly worthy and ingenious friend, Mr. George Witchell, head-master of the Royal Academy at Portsmouth, was peculiarly happy in hitting on a device for throwing the whole of that part of the computation which relates to the reduction of the apparent to the true distance of the moon and stars, on account of parallax and refraction, into Tables; from whence it may, in many cases, be taken, almost at sight, and in the most troublesome ones by very easy proportions. This method was proposed to the Commissioners of Longitude in the month of September 1764, and so well approved of, that the Commissioners ordered him a gratuity of 300 *l.* and the tables to be computed and printed, which has since been done, with the addition of a column for correcting the effects of refraction, on account of the variable density of the atmosphere, under the inspection of the Rev. Dr. Anthony Shepherd, Plumian Professor of Astronomy and Experimental Philosophy in the University of Cambridge, and Master of Mechanics to his Majesty. By the help of these Tables, as I can from long experience assert, the abovementioned reduction may generally be made in about three minutes, and always in five.

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Mr Witchell, at the ſame time, propoſed the publication of a Nautical Almanac, and delivered in a plan on which it might be executed and Meſſrs Dunthorne and Lyons, very ſoon after, produced excellent Compendiums for abridging this reduction, by means of ſhort tables and rules; and for which they were each of them rewarded with a gratuity of 50 l and their methods ordered to be printed.

Very early in the ſpring of the year 1765, the Rev Nevil Maſkelyne being then returned from his voyage to Barbadoes, whither he had been in conſort with my brother in-law, Mr Charles Green, to make obſervations for the trial of Mr Harriſon's Time keeper, and in which voyage they had both of them had abundant proofs of the poſſibility of making the lunar obſervations with eaſe and exactneſs, was, on account of his many eminent ſervices to, and great ſkill in the ſcience, made Aſtronomer-Royal at Greenwich, on the deceaſe of the Rev Mr Bliſs, who had ſucceeded Dr Bradley in 1762 and having now a ſeat at the Board of Longitude, again preſſed the publication of a Nautical Almanac, and backed the memorial, which he then delivered in, with the teſtimony of ſeveral gentlemen in the Eaſt India Company's ſervice, who all concurred in declaring their opinions, that ſuch a publication would be of the utmoſt utility to navigation In conſequence of theſe repreſentations, the Commiſſioners applied to Parliament for authority to print and publiſh ſuch an Almanac, which was granted by an act, made in the fifth year of the reign of his preſent Majeſty, and in conſequence thereof, proper perſons were employed, and the firſt Almanac, of this kind, was computed and publiſhed for 1767, and they have been continued ever ſince, being publiſhed ſeveral years in advance for the benefit of thoſe who make long

voyages. The ſame act ordered a reward of 3000 l. to be given to the widow, or other repreſentatives of the late Mr. Tobias Mayor, author of the Lunar Tables; and alſo 300 l. to the celebrated Mr. Euler, for what he had done in reducing Sir Iſaac Newton's Theory of the Moon into neat analytical expreſſions, of which Mr. Mayer had availed himſelf, and from whence, by a very ſingular addreſs of his own, had contrived to bring out the greateſt quantities of the equations with eaſe and exactneſs.

But although matters were thus far happily advanced, it was not propoſed to reſt here. The Rev. Mr. Maſkelyne having compared Mr. Mayer's laſt Lunar Tables with more obſervations, conceived hopes of bringing them to agree yet nearer with obſervation. Accordingly, with the approbation of th Board of Longitude, the equation tables were recomputed from numbers which he had reaſons to think were nearer to the truth: he alſo directed that thoſe tables ſhould be continued to tenths of ſeconds, in order that fewer errors might happen from the omiſſion of the fractional parts which ariſe in computation. Theſe Tables have ſince been printed, and it is from them that the computations in the Nautical Almanac are now made. Moreover, two moſt excellent and accurate methods of reducing the obſerved diſtance of the moon from the ſun, or a ſtar, to the true, have been invented, and publiſhed in the Nautical Almanac for 1772. We are indebted for one of them to the Rev. Navil Maſkelyne, Aſtronomer-Royal; and for the other to Mr. George Witchell, Head Maſter of the Royal Academy at Portſmouth.

By theſe means, namely, the Nautical Almanac, and the ſeveral methods deſcribed above, of abridging the reduction of the apparent diſtance to the true, on account of parallax and refraction, the computations

computations, attending this method of finding the Longitude, may be performed in 15 or 16 minutes by a very moderate computer; although formerly it could not have been done in leſs than three or four hours by the moſt ſkilful But notwithſtanding this, there yet remained many things to be done, and great difficulties to be got over It had yet been practiſed by very few perſons except ſuch as were fond of Aſtronomical matters, and it could not be ſuppoſed that the generality of ſeamen or even any conſiderable part of them, ſhould be ſo and it is not an eaſy matter to induce people, of any denomination, to take the trouble of putting in practice the ſchemes of other perſons, unleſs they are previouſly well aſſured of their ſucceſs, which was by no means the caſe here, as every ſeaman, without exception, had been taught, from his infancy, to look on theſe things as impracticable The Right Honourable the Lords Commiſſioners of the Admiralty took every ſtep in their power to encourage the practice of this method in the Royal navy, but notwithſtanding this, it was rather fortunate that another tranſit of Venus was to be obſerved in 1769, which, together with the voyages, lately undertaken for diſcoveries towards the South, have carried many perſons abroad, who, either by inclination or ſituation, were intereſted in its ſucceſs, and of courſe exerted themſelves in the practice of it, and their example has, perhaps, contributed more towards bringing it into uſe, than every thing elſe put together

As the practice of this method became more extenſive, many little defects were diſcovered in the inſtruments, which had either eſcaped notice before, or not been much attended to Among theſe, the moſt material were the want of accuracy in the diviſions of the arch, and the errors ariſing from a want of paralleliſm in the

the two ſurfaces of the glaſs ſpeculums. The former, Mr. Bird had ſhewn might be avoided by a ſkilful workman, and received 500 l. from the Board of Longitude for his excellency therein; and it is now completely removed by Mr. Ramſden, by his curious invention of a machine for dividing circular arches in Aſtronomical inſtruments; and for which he, alſo, received a very handſome gratuity from the ſaid Board. This machine divides with ſo much certainty and exactneſs, that a quadrant, which had been divided by his apprentice therewith in the preſence of ſeveral of the Commiſſioners of Longitude, and afterwards examined with the utmoſt rigour by Mr. Bird, was found not to err, in any part, fifteen ſeconds of a degree; for Mr. Bird himſelf aſſured me, that if it had, he was certain of diſcovering it. The ſame ingenious Gentleman has now under conſideration a machine, of a ſimilar kind, for dividing ſtraight lines with equal accuracy, certainty, and expedition.

The latter, namely, the errors ariſing from a want of parrallelíſm in the two ſurfaces of the glaſſes, has alſo been well provided againſt, at leaſt in the index-ſpeculum, by the Rev. Mr. Maſkelyne, our preſent Aſtronomer-Royal; and which he has deſcribed in ſome very intereſting remarks on the Hadley's Quadrant, publiſhed in the Nautical Almanack for 1774. This moſt excellent improvement is effected by leaving the upper part of the index-ſpeculum unſilvered, and making that part of the glaſs rough on the back, and covering it with a ſort of black paint; whereby all the rays are abſorbed, which are not reflected from the firſt ſurface; and which, I will be bold to ſay, is one of the greateſt improvements that have been made to this inſtrument ſince its invention. Mr. George Holroyd, mentioned above as one of the inventors of Hadley's Quadrant, had alſo a thought of this kind for remedying

theſe errors, as appears from a Quadrant, which I have ſeen, that was made for him by Mr Dollond about the year 1765 I have alſo ſeen ſome contrivances, of the ſame Gentleman, for removing theſe errors, by making the ſpeculums of a ſort of opaque glaſs, and alſo of a compoſition ſomewhat reſembling enamel, which might not, perhaps, be unworthy of a trial

In the ſame paper, Mr Maſkelyne has given many excellent rules and directions concerning the ſize, height, and manner of ſilvering the glaſſes, the aperture of the teleſcope, and the means of adjuſting it parallel to the plane of the quadrant, and he directed that two thick ſilver wires ſhould be placed in the focus of the eye-glaſs of the teleſcope, dividing the diameter of the field of view into three equal parts, for that purpoſe at the ſame time ſhewing many other uſeful purpoſes that theſe wires might be applied to

I have obſerved before, that Mr Bird was the firſt who applied perpendicular bars to ſupport, or ſtrengthen the plane of this quadrant but the index being yet made of a broad, thin bar of braſs, was liable to be bended, either towards, or from the plane of the quadrant, and of courſe the center-work was very much expoſed to damage To prevent this, the ſame Gentleman, firſt of any perſon that I know of, applied a perpendicular bar to the face of the index, which it was then ſuppoſed would render theſe very delicate parts of the inſtrument perfectly ſecure But, ſuch are the imperfections of the very beſt materials we are poſſeſſed of, that it was ſoon after diſcovered, the index of a Hadley's Quadrant, ſtrengthened even in this manner, was yet liable to bend in the direction of its breadth, or, which is the ſame thing, in the direction of the plane

of the angle to be meafured; and that merely with the fmall force which is neceffary to overcome the friction of the center-work! A thing fo incredible, that the late Mr. Bird, who certainly knew the inftability of metals as well as any man, could not be perfuaded of its poffibility, until Capt. Campbell, who firft difcovered this defect, fhewed it to him, by releafing the clamp which faftens down the index, and pufhing the index gently along with his thumb; when, on fuddenly removing it, Mr. Bird faw, with his own eyes, the index fpring back again to a very fenfible diftance. And this error will be very confiderable indeed, if by any mifchance the fcrew, that binds in the center-pin, fhould have been fcrewed up a little too tight. To prevent this, Mr. Bird, in all the quadrants which he made towards the latter part of his time, provided a thin, circular plate of hammered brafs, beaten hollow on one fide; and cut, by many ftraight flits, from the circumference almoft to the centre, where it was perforated, of a fufficient width, to receive the binding-fcrew of the center-work freely. This plate being put over the center-pin, with the hollow part towards the back of the quadrant, and the binding-fcrew put through the perforation into its place, the plate will then act as a fpring againft the back of the quadrant, and by its yielding prevent the center-work from being drawn too tight by the fcrew, and yet hold it with fufficient force to prevent any fhake in it. But as there are many quadrants, which are not made in this manner, and as it is poffible this apparatus may not always anfwer the purpofe intended, fo completely as might be wifhed for, I would advife every obferver to move the index of his quadrant different ways between the obfervations; that is, to fet the objects open, and make them overlap, alternately. By thefe means they are brought into contact, by moving the index different ways; and

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on that account, the errors arising from this cause will be alternately negative and affirmative, and of course, if an equal number be taken both ways, will nearly destroy one another This method will also have a tendency to correct any errors, which might otherwise arise from a faulty habit, that the observer may have contracted, in forming the contact of the two objects; and is what I always used without ever finding any bad consequence arising from it, but that of making the observations look a little irregular, which will be more or less according to the joint quantity of these two errors

By such steps have the Instruments, as well as the practice of Nautical Astronomy, arrived to their present degree of perfection, and it fully appears from the preceding Narrative, how great a part is owing to the rewards held forth, and the generous encouragement given, by the Board of Longitude, to ingenious men of all denominations, for inventions and improvements, that in any way conduce to the advancement of Astronomy and Navigation, and also of what vast utility that institution has been of to these flourishing and opulent kingdoms

As I have spoken rather warmly in favour of the method of finding the longitude by observations of the Moon's distance from the Sun and Fixed Stars, it may perhaps be expected that I should deliver my opinion concerning the accuracy wherewith they can be made, and what may be expected from the instrument of which I have said so much It must be owned, there is yet something in the constitution of this Quadrant very disagreeable, and not easily to be accounted for Sometimes, for many months together, the longitudes deduced from observations made about the same

time

time with my two Sextants, would not differ more than 10 or 15 miles, and very feldom fo much; after which the longitudes, fo deduced, would begin to differ, and that difference would gradually increafe, fometimes to more than a degree and an half: In a little time it would again decreafe, and foon after the obfervations would agree as well as ever. It will readily be fuppofed, that no means were left untried by me to difcover the caufe of this ftrange aberration; but all my endeavours were ineffectual; and I mention the circumftance to induce fome perfon, more fkilful in mechanics, to attempt it.

With refpect to the exactnefs that thefe obfervations may be made with, I fhall beg leave to relate two plain matters of fact, which will fhew what can be done in this refpect, better than a thoufand opinions. I reduced ten obfervations, all taken within the fpace of half a lunation before our arrival at the Cape of Good Hope, to that place, by means of Mr. Kendall's Watch; and alfo as many taken after leaving it, by the fame means: the refult of the former gave the longitude of the Cape Town 18° 10′ E., and of the latter 18° 23′$\frac{2}{3}$ E. Their mean is 18° 16′ 50″ E.; differing 6′ 25″ from its true longitude, as determined by Meffrs. Mafon and Dixon. Again, the mean of four lunar obfervations, taken immediately before our arrival at St. Helena, gave its longitude 5° 30′$\frac{1}{5}$ W., when reduced thither by Mr. Kendall's Watch: four, taken immediately after leaving it, and reduced to that place in the fame manner, gave its longitude 6° 20′ W. Their mean is 5° 55′$\frac{1}{10}$ W., which differs but 6′ 6″ from its true longitude, as found by the Rev. Mr. Mafkelyne, by a great number of aftronomical obfervations made on fhore. I therefore conclude, that, with very little trouble, the longitude of a fhip, at fea, may generally be had by this method, within

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about the one-fixth part of a degree, or at moft, the one-fifth——I fhall now proceed to defcribe the reft of the inftruments made ufe of in this expedition

Of the Azimuth Compaffes

BESIDES that of Mr Adams's making, which belonged to the Board of Longitude, and was of the late Dr Knight's conftruction, we had two others, belonging to the fhip One of thefe alfo was of Dr Knight's conftruction, and made by the fame artift, and the other by Mr Gregory, with fome alterations of his own, confifting chiefly in the fize of the inftrument, the weight and ftrength of its parts, and their manner of fufpenfion, which was on friction wheels every one of thefe, I conceive, were conducive either to leffen its motion, or render it more regular, and of lefs effect Indeed I muft obferve, that Dr Knight's Compaffes, as they are now made, are very defective in thefe particulars, feeing that the leaft motion of the fhip throws them into diforder, and they are not readily made fteady again, which renders them very troublefome to obferve with, and perhaps not quite fo accurate as they might otherwife be

I cannot pafs this article over without making a remark or two on the irregularities which we found in the Obfervations, made with thefe inftruments In the Channel of England, the extremes of the obferved variations were from 19°$\frac{1}{4}$ to 25° and all the way from England to the Cape of Good Hope, I frequently obferved differences nearly as great, without being able, any way, to account for them, the difference in fituation being by no means fufficient Thefe irregularities continued after leaving the Cape, which, at length, put me on examining into the circumftances under which

they were made In this examination it soon appeared, that when most of those observations were made, wherein the greatest West variations had happened, the ship's head was North and Easterly; and that when those, where it was least, had been been observed, it was South and Westerly I mentioned this to Captain Cook, and some of the Officers, who did not at first seem to think much of it, but as opportunities happened, some observations were made under those circumstances, and very much contributed to confirm my suspicions, and throughout the whole voyage I had great reasons to believe, that variations observed with a ship's head in different positions, and even in different parts of her, will differ very materially from one another; and much more will variations, observed on board different ships, which I now find fully verified, on comparing those which were made on board the Adventure with my own, made about the same time and the inquisitive reader will find some very singular instances of these matters in the course of the following Observations ——The twelfth article does not require any account here

Of the Dipping Needles

THIS Instrument was made by Mr Nairne, agreeable to a plan of the Rev Mr Mitchell, Fellow of the Royal Society, wherein the Needle may be balanced at any time, pretty exactly but not without much time and trouble This is done by means of four little balls, moving on two small wires, one of which is supposed to lie in a plane, passing through the axis of the Needle and its two poles, and the other in a plane at right angles thereto By moving the balls of the latter, the common center of gravity of the balls and Needle, is brought into the plane which passes

 through

through the poles and axis of the Needle; and then, by moving the two former, into the axis itself

The principal defects in this construction are, the difficulty in placing the wire, which carries the two last mentioned balls, in the proper plane; and the total impossibility of knowing, certainly, when it is so Moreover, it is very possible, and undoubtedly often happens, that the axis of the Needle, and its two poles, do not lie in the same plane, in which case, another difficulty will arise in adjusting the Needle to great accuracy It would certainly, I think, contribute towards removing these objections if the breadth of the Needle was placed in the direction of its axis of rotation, both in this instrument, and also in the Azimuth Compass but I speak this with submission to the opinions of better judges

Of the Barometers and Thermometers

THE two portable Barometers differed in no respect from common ones of that kind but the construction of the Marine Barometer is curious, and deserves to be described It was of that sort which we generally call Cistern Barometers The cistern was a cylindric box of wood, with two circular holes in its top, one of near half an inch, and the other of near an inch diameter Into the former of these, the tube is fitted so tight as not to admit the mercury beside it The larger perforation is covered with a very fine piece of woollen cloth, which Mr Nairne found had the property of admitting air through its pores, but not mercury The tube was straight, and its bore rather small for something more than two feet; but above that, it was enlarged to the common size The smallness of the tube, below, prevented the mercury from ascending so fast as it would otherwise

otherwiſe have done by the motion of the ſhip, and the width of the tube, above, prevented what did riſe from having ſo ſenſible an effect as it would otherwiſe have had, on the motion of the mercury in that part of the tube. This Barometer was ſuſpended on a common gimmal, about half-way up. I ſoon found that the motion of the ſhip had a very conſiderable effect on this inſtrument; and it ſeemed to me, that the motion of a Barometer, thus ſuſpended, had a tendency to make the mercury ſtand ſomewhat higher than it would otherwiſe have done; and therefore the mean of the vibrations of the mercury, as put down in the following pages, will generally be greater than would be ſhewn by a barometer at reſt. Mr. Nairne tells me, that he has ſince found by experiment, that a Barometer of this ſort may be ſuſpended, at ſuch a height above the baſon, that its motion will have a tendency to make its mean height leſs than it would be in a Barometer at reſt; and from thence has been enabled to determine the point where it may be ſuſpended, ſo that the mercury will neither have a tendency to aſcend or deſcend; and of courſe in a barometer, thus ſuſpended, the mercury will be perfectly at reſt.

The Thermometers had nothing particular in them, farther than what is remarked at the end of the Meteorological Obſervations; but it would not be amiſs if Thermometers, which are intended for expeditions of this ſort, had a more extenſive ſcale. The ſcale of thoſe which I had extended from about 0 to 120.—The Theodolite, and Gunter's Chain, are too well known to need deſcribing here.

The Wind gage has already been very fully deſcribed by its inventor, Dr. Lind, in the Philoſophical Tranſactions, vol. lxv. p. 353. for

for the year 1775 Such an inſtrument would undoubtedly be very uſeful, if it could be made with a ſcale ſomewhat more extenſive than that I made uſe of In it, the water never roſe more than nine tenths of an inch in the ſtrongeſt guſts, and would then vibrate from that point to nothing

The apparatus for trying the heat of the ſea water at different depths, conſiſted of a ſquare wooden tube, of about 18 inches long, and three inches ſquare externally It was fitted with a valve at the bottom, which opened inward, and another at its top, that opened outward, and had a contrivance for ſuſpending the Thermometer exactly in the middle of it When it was uſed, it was faſtened to the deep-ſea line, juſt above the lead, ſo that all the way as it deſcended the water had a free paſſage through it, by means of the valves, which were then both open, but the inſtant it began to be drawn up, both the valves cloſed by the preſſure of the water, and of courſe the Thermometer was brought up in a body of water, of the ſame temperature with that it was let down to

I come now to ſpeak of the Time-keepers, three of which were made by Mr John Arnold, and the fourth by Mr Larcum Kendall, on the principles of that late moſt excellent artiſt, Mr John Harriſon I have nothing to ſay concerning the principles on which they were conſtructed theſe of the latter are now well known, and I am not acquainted with thoſe of the former The merits of each will be beſt ſeen from the obſervations themſelves, and I have therefore no need to add any thing on that head I wiſhed to have given a ſhort hiſtory of what had been done, this way, towards finding the longitude at ſea, but, on examination, can find no certain accounts of what was done by the reſpective perſons who have

n turned

turned their thoughts to this ſubject; and a bare recital of their names would be neither uſeful nor entertaining. I have therefore only to add, and I am certain it will be confirmed by every ſea-faring Perſon who has experienced it, that a good machine of this kind is an ineſtimable companion at ſea.

All the obſervations which were made on ſhore are put down literally as they were taken, that is, in the very numbers that were read off, and the times ſhewn by the clock: and, to avoid any errors that might happen in tranſcribing, the proof-ſheets were all read by the original books. In delivering the obſervations which were made at ſea, it was judged ſufficient to give the means only, as the whole, in their original form, would have been too voluminous, and could anſwer no uſeful purpoſe, which will not now be equally fulfilled. Every mean was taken by two perſons, ſeparately, and carefully compared, and corrected, where neceſſary, by myſelf; ſo that, I hope, very few errors have crept in here. I have annexed the name of the obſerver to all thoſe obſervations which were not made by myſelf, and taken care to ſpecify ſuch remarks as were made by him at the time of making them. The deductions from Mr. Bayly's obſervations were in general made by himſelf; and it is particularly mentioned where they are done by me, that he may not be blamed for errors which are not his own.

There are two or three characters made uſe of in this work, which it will be proper to explain, although they are now generally known to Aſtronomers.

: Signifies that the number, after which it ſtands, is, on ſome account or other, a little doubtful.

:: Placed

Placed in like manner, means very doubtful

After fome few of Mr Bayly's obfervations, taken on fhore, the characters + or — occur the former means that one fourth of a fecond muft be added to, and the latter, that one fourth of a fecond muft be fubtracted from, the number againft which it ftands

Every fheet has been read over until no errors could be found in it, before it went to the prefs, and therefore, I hope, few can have efcaped me fome, no doubt, there will be; but for which, every perfon, who knows the difficulty of compiling and correcting a work of this nature, and of fuch an extent, will, I am perfuaded, make candid allowance, if his good-nature be not too far trefpaffed on

I cannot conclude, without obferving that I have once, in the courfe of this work ftepped out of my province, and taken a liberty which I would wifh not to be cenfured for I had been at fome pains to determine the fituations of a group of fmall iflands, to which I cannot find that any name has been affigned by Capt Cook I have therefore ventured to call them by the name of a perfon to whom I owe very much indeed, one who took me by the hand when I was friendlefs, and never forfook me when I had occafion for his help, and who, I hope, will not be offended at this public acknowledgment of his favours

W WALES

ASTRONOMICAL OBSERVATIONS,

MADE AT

Different Places on Shore

Observations on Drake's Island, in Plymouth Sound, by Mr Bayley

1772	Times by the Clock of equal Altitudes: Lower Wire	Middle Wire	Upper Wire	Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
♂ June 30	Set up the Clock marked C, and set it agoing; the pendulum being exactly of the same length as when going at Greenwich, when it lost at the rate of 0 373 a day on Syderial time					
	38 18½	2 41 15	44 12	53 40 0		☉'s U L – Easterly
	41 40	2 44 37½	47 36			☉ s L L
	59 29	3 2 29	5 31½	50 20 0		☉ s U L
	2 54½	3 5 54½	8 56			☉'s L L
☿ July 1	At	7 20 29	M Arnold watch No 2 shewed 0 h 55′		6 45 02,4	Clock 1 17′ 4 bef Syderial time
	27 6	10 24 4	21 7½	50 20 0		☉ s L L – Westerly
	30 31	10 27 31	24 29			☉ s U L
	48 18	10 45 20	——	53 40 0		☉'s L L
	51 42	10 48 33½	45 45			☉'s U L
	41 25	1 46 22	——	63 20 0		☉'s U L – Easterly Very cloudy
	44 45½	——	——			☉'s L L
	——	2 17 2	——	58 9 0		☉'s U L.
	17 26	2 ——	——			☉'s L L.
♃ —— 2	At	7 4 57	No. 2 shewed 0 h 36 0″		6 48 47,5	
	20 3	11 ——	——	58 9 0		☉'s L L – Westerly
	——	11 20 25½	——			☉'s U L
	52 39	——	——	63 20 0		☉ s L L
	56 0½	11 52 4	——			☉'s U L.
	41 21	1 44 18	47 16	64 0 0		☉ s U L – Easterly
	44 43	——	50 40			☉'s L L
♀ —— 3	At	7 17 28	No 2 shewed 0 h 45 0″		6 52 34,5	Clock 33″ 8 before Syderial time.
	0 16	——	54 22	64 0 0		☉ s L L. – Westerly
	3 37½	12 0 39½	57 42			☉ s U L
♄ —— 4	At	9 4 16	No. 2 shewed 2 h 28 0″			
	28 9	1 31 8	——	67 24 0		☉'s U L – Easterly
	31 32	1 34 31	37 31½			☉'s L L
☉ —— 5	At	7 33 31	No. 2 shewed 0 h 54 0″		7 00 08,6	Clock 6″ 1 after Syderial time
	28 32	12 25 34	22 35	67 24 0		☉'s L L – Westerly
	31 55	12 28 56½	——			☉ s U L
	26 25	1 29 24½	32 24½	68 20 0		☉ s U L. – Easterly
	29 47	1 32 49½	35 47½			☉ s L L
	55 13	1 58 13	——	63 48 0		☉'s U L
	58 34½	——	——			☉'s L L
	7 42	2 10 40	13 35½	61 50 0		☉'s U L
	11 2	2 13 59½	——			☉ s L L.
☽ —— 6	At	7 17 58	No 2 shewed 0 h 35 0″		7 3 54,3	Clock 27 after Syderial time.

Obſervations by Mr. Bayley, at Drake's Iſland, Continued.

1772.	Times by the Clock of equal Altitudes. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diſtance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
☽ July 6.	56 36½	11 53 38	——	61 50 0		☉'s L. L. Weſterly.
	59 53	11 57 0	54 2½			☉'s U. L.
	9 1½	12 ——	——	63 48 0		☉'s L. L.
	12 20½	12 9 24½	——			☉'s U. L.
	37 46	12 34 46½	31 47	68 20 0		☉'s L. L.
	——	12 38 10	35 9½			☉'s U. L.
☿ —— 8.	At	8 12 9	No. 2 ſhowed	1 h 22″ 0		
	41 35	2 44 31	47 28	58 30 0		☉'s U. L. Eaſterly.
	44 55	2 47 53	50 51			☉'s L. L.
	——	3 5 59	8 57½	55 6 0		☉'s U. L.
	6 24	3 9 21½	——			☉'s L. L.
♃ —— 9.					7 15 15,9	Clock 1′ 23″ after Syderial time.
	23 58	11 20 58	——	55 6 0		☉'s U. L. Weſterly.
	——	11 24 22½	21 24½			☉'s L. L.
	45 22	11 42 24½	39 29	58 30 0		☉'s U L.
	48 43½	11 45 46½	42 51			☉'s L. L.

Obſervations for the Latitude of the Place, by Mr. Bayley.

1772.	Zenith Diſtance.	Latitude.	Barometer.	Ther.	Phenomena.	
	° ′ ″	° ′ ″				
☿ July 1.	27 31 36	50 21 20	30,27	77	☉'s L. L.	On the Meridian.
♃ —— 2.	27 36 16½	50 21 30½	30,20	76	Ditto.	
♀ —— 3.	27 41 16½	50 21 31	30,23	63	Ditto.	
♂ —— 7.	42 3 33	50 21 29	30,11	60	α Aquilæ.	
	37 36 10	50 21 26½	30,11	60	α Ophiuchi.	
♃ —— 9.	28 19 8	50 21 35	30,00	76	☉'s L. L.	

The mean is 50° 21′ 28½″ N. Latitude.

The Clock's Rate of going.

1772.	Clock C. before Syderial Time	Clock gains on Syd. time.
	′ ″	″
☿ July 1.	1 17,4	22,9
♃ —— 2.	0 54,5	20,7
♀ —— 3.	0 33,8	19,95
	After	
☉ —— 5.	0 6,1	20,9
☽ —— 6.	0 27,0	18,67
♃ —— 9.	1 23,0	

Mean Rate of loſing	20,625″

Observations at Drake's Island, Continued

Observations of the Sun, Moon, and Stars, made with the Transit Instrument placed nearly in the Meridian

1772	First Wire ′ ″	Second Wire ′ ″	Middle Wire H ′ ″	Fourth Wire	Fifth Wire ″	Phenomena and Remarks
♂ July 7						
	52 54¼	53 36½	12 54 18½	54 54	55 44½	☽'s First Limb
	22 17	22 59¼	17 23 43	24 25	25 8	α Ophiuchi
	11 58	12 38½	19 13 21	14 3	14 44	δ Aquilæ
	37 34	38 15½	19 38 58¼	39 41	40 22¼	α Aquilæ

It appears from the observations of α Ophiuchi and α Aquilæ, that the instrument was west of the true meridian 3′ 37″; that is, it cut the Meridian in the Zenith under that angle. Moved it a little to the eastward.

☿ — 8	49 8	49 51	13 50 35¼	51 19¼	52 1½	☽'s First Limb
	2 41½	3 25	14 4 9½	4 54½	5 37½	Arcturus
	30 32½	31 14	15 31 55¾	32 38½	33 19	α Serpentis
	——	13 34	16 14 21½	15 8¼	——	Antares
	——	——	17 23 12	——	——	α Ophiuchi
♃ — 9						
	12 33¾	13 18½	7 14 3½	——	——	☉'s First Limb
	14 49½	15 35½	16 21	17 6	17 51	☉'s Second Limb

By comparing these observations of the Sun's Transit with the equal altitudes, it appears that the vertical, in which the instrument moved, after it had been altered on the 7th, made an angle with the true Meridian of 1′ 46″; the southern semi circle of that vertical lying so much to the eastward. The two transits of α Ophiuchi, when compared together, make the arch of the Horizon intercepted between the two verticals in which it moved, before and after the alteration, 4′ 49″; and of course the angle, under which it cut the Meridian after the alteration was 1′ 12″; but the transits of the three stars Arcturus, α Serpentis, and Antares, when compared with their apparent right ascensions, make the angle only 23″; the mean of the three is 1′ of a degree. It happened, very unfortunately, that no Observations, corresponding to these were made at Greenwich, nor by the late Dr Bradley in 1754, or 223 complete lunations before, namely, on June 27th and 28th; but I have endeavoured to correct the Tables from two Observations, made by that excellent Astronomer June 24th and 29th, and by comparing the right ascensions of the Moon, deduced from the preceding Observations, with the Tables so corrected I make the Longitude of Drake's Island 4° 18′ 52″ W of Greenwich. The Rev Mr Maskelyne, Astronomer Royal, by means of Martin's Map of Cornwall, and the situation of the Lizard Point, as given by Mr J Bradley's Observations, (See Preface to Nautical Almanack for 1771) makes the Longitude of Drake's Island 4° 13′ 23″ W. If I take 4° 16¼′ W the mean of these two determinations, it may perhaps be nearer than either, as both are in some measure uncertain.

Obſervations at Drake's Iſland, Continued

The Clock, by which the times were taken, was fixed up very firmly to an oak plank, 11 inches broad, and 2½ thick, let three feet into the ground, and well braced on each ſide. It was marked C, which is neceſſary to be noted, as ſome of the following Obſervations were taken by another which is marked B. The pendulum, all the time, vibrated 1° 50' each way from the perpendicular.

All the computations were made by Mr. Bayley, except the times of apparent noon and rate of the Clock's going, which were recomputed by myſelf.

On Friday, July the 10th, in the evening, the three Time-keepers, N° 1, 2, 3, made by Mr. Arnold, were ſet agoing by himſelf nearly to mean time; and I ſet that made by Mr. Kendall, on Mr. Harriſon's principles, agoing alſo. At 13h 0' 6" by the Clock, the watches N° 1 and 2 ſhewed each of them 5h 45'; from whence Mr. Bayley computed that they were 12" too ſlow for mean time at this place. At 14h 15' by the Clock, Mr. Kendall's watch ſhewed 6h 59' 52"; and at 14h 28' Mr. Arnold's watch, N° 3, ſhewed 7h 12' 39"; from whence I computed, that the former was too faſt for mean time by 7 10ths of a ſecond, and the latter too ſlow by 10½" at the times of compariſon. N° 1 and 2 were taken on board the Adventure by Mr. Bayley; and N° 3, together with that made by Mr. Kendall, were carried by myſelf on board of the Reſolution. The Rev. Mr. Maſkelyne, Aſtronomer Royal, had previouſly found the rates of going of N° 1, 2, and 3, to be reſpectively gaining 4 5ths of a ſecond; gaining 14",15, and loſing 14",63; and that the rate of Mr. Kendall's was 5 8ths of a ſecond a day loſing, all on mean time. Mr. Bayley computed, from the preceding compariſons, that N° 2 got, while here only, 6",057 a day.

Obſervations for the Variation of the Compaſs

1772	Time by the Clock H ' "	The Sun's Zenith Diſtance ° ' "	Magnetic azimuth ° '	Variation Weſt ° '
	Obſerved with a Compaſs made by Gregory			
♃ July 9	13 45 30	77 9 36	N 49 27 W	20 87
	46 38	77 29 0	48 20	21 22
	51 12	78 0 38	47 35	21 29
	Obſerved with a Compaſs made by Adams			
	13 54 48	78 35 0	N 46 00 W	22 21½
	56 49	78 50 0	45 45	22 18
	59 6	79 10 0	45 15	22 23
			The mean of all is	21° 45½'
	By placing the Compaſs in the meridian, and turning the index to the meridian mark, the variation was found to be			21 13½
			The mean of both is	21 29

Obſervations for the dip of the Needle's N° End

1772	Dip of the Needle's N° End, Face of the Inſtrument East ° '	West ° '
♀ July 10	72 45	71 15
	72 50	71 30
	72 55	71 20
Means	72 50	71 21⅔
Mean of the two	72	5⅚

Obſervations made at the Britiſh Conſul's Houſe, at Fonchial, on the Iſland of Madeira

1772	Equal Altitudes Time by the Clock marked B — Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks
	′ ″	H ′ ″	′ ″	H ″ ′	H ′ ″	
♃ July 30	19 17	4 21 22	—	59 40 0		☉'s U L — Eaſterly
	21 50	23 58½	26 4			☉'s L L — Eaſterly
	32 24	4 34 29½	36 35	56 40 0		☉'s U L — Eaſterly
	34 57	4 37 5½	39 11		8 42 33,28	☉'s L L — Eaſterly
♀ — 31	49 58½	12 47 52½	45 46¼	56 40 0		☉'s L L — Weſterly
	52 28	12 50 24½	48 19¼			☉'s U L — Weſterly
	21 53	4 24 0	26 5	59 40 0		☉'s U L — Eaſterly
	24 29¾	26 36	28 41½			☉'s L L — Eaſterly
	33 1	4 35 7¼	37 14	57 20 0		☉'s U L — Eaſterly
	35 37	37 44	39 51		8 45 49,88	☉'s L L — Eaſterly
♄ Aug 1	55 50	12 53 46	51 43	57 20 0		☉'s L L — Weſterly
	58 22	56 19	54 13½			☉'s U L — Weſterly
	6 59½	13 4 55	—	59 40 0		☉'s L L — Weſterly
	9 31	7 26	5 22			☉'s U L — Weſterly

Hence it appears that the Clock loſt 36″,6 a day on Sydereal time

1772	Obſerved by Mr Bayley Time by the Clock marked C.			Zenith Diſtance	Time of paſſing the Meridian	Phenomena and Remarks
♀ July 31	At 13 h 31 39¼″ by B, it was 13 h 31 0″ by C					
	At 22 h 24′ 0′, the Clock B ſhewed 22 h 24′ 54″					
	31 48½	16 34 8½	36 29		19 36 32,8	α Aquilæ, Eaſtward
	41 18¾	22 38 56½	36 35			α Aquilæ, Weſtward
	29 31	3 31 47½	34 4¼	70 21 0		☉'s U L
	32 5½	3 34 21½	36 36¼		-	☉'s L L
	43 2	3 45 17¾	47 34	67 33 0		☉'s U L
		47 52	50 4¼			☉'s L L
	2 52	4 5 7¾	7 23¼	63 25 0		☉'s U L.
	5 25¾	7 40½	9 53½			☉'s L L.

At 4 h. 58 55½″ by C, it was 5 h. by B

Observations at Fonchial, Continued

1772	Equal Altitudes Time by the Clock C — Lower Wire	Middle Wire	Upper Wire	Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	H	H ′	H	H ″	H ′ ″	
♄ August 1	At 8 h 44′ 49¼″ B shewed 8 h 46′ 0″				8 44 40,2	
	23 42	13 21 27	19 13½	63 25 0		☉'s L L
	26 15	24 0	21 46			☉'s U L
	—	13 41 17	39 1¾	67 33 0		☉'s L L
	46 1	43 46	41 35½			☉'s U L
	—	13 54 43	52 27½	70 21 0		☉'s L L
	—	57 17	—			☉'s U L

Hence the Clock C seems to have lost at the rate of 1 15″ a day on Syderial time

Whilst we were here, the Thermometer stood from 74° to 72½°

All the computations were made by myself

The Observations were made at the house of the British Consul, which is about 200 yards, nearly due east, from the place where the late Dr Thomas Heberden made his Observations

The Clocks stood on a brick floor, and were screwed fast to a large book case, full of books, and which was fastened in a very firm manner to the wall of the house

The pendulum of B vibrated 1° 40 on each side of the perpendicular, and that of C 1° 53

Comparisons of Mr Kendall's Watch with the Clock B

1772	Time by B	Time by K
	H ″	H ′ ″
♀ July 31	9 35 38	1 50 0
	13 39 0	5 52 47
	4 44 18¼	20 56 0
	8 28 50	12 40 0
♄ August 1	14 4 37	6 15 0

Comparisons of Mr Arnold's Watch (No 3) with the Clock B

1772	Time by B	Time by A
	H ′ ″	H ′
♀ July 31	9 36 37½	1 35 0
	13 40 21	5 38 0
	4 42 0	20 37 0
	8 26 39½	0 21 0
♄ August 1	14 6 42	6 0 0

Comparisons of Mr Arnold's Watch (No 1) with the Clock C

1772	Time by C	Time by A
	H	H ″
♀ July 31	9 33 13½	1 47 0
	13 35 40	5 49 0
	8 33 46	0 45 0

Comparisons of Mr Arnold's Watch (No 2) with the Clock C

1772	Time by C	Time by A
	H ′ ″	H ′ ″
♀ July 31	9 34 0¼	2 42 0
	13 37 29	6 45 0
	8 35 39½	1 41 0

Obſervations at Funchal, Continued

If r be put for the Clock's gain on the Watch in any given time (a) ſhewn by the Clock, as for example, between any two times of compariſon, v for the time ſhewn by the Clock, between the compariſon and neareſt apparent noon, and A for the time by the Watch when the compariſon was made; then I ſay that the time ſhewn by the Watch at the apparent noon, or time of the ſun's centre being on the meridian, will be expreſſed by $A \pm v \mp \frac{vr}{a}$; the upper ſigns having place when the compariſon is made before, and the lower ones when it is made after noon; but if the Watch goes faſter than the Clock, it will be juſt the contrary: and by making uſe of this formula, and computing from the above Obſervations, and compariſons of the Time-keepers therewith, I find that the ſeveral rates of the three, made by Mr. Arnold, and marked No. 1, 2 and 3 were, gaining 2",31; gaining 55",89, and loſing 56",9 on mean time in 24 h.; and that the Watch made by Mr. Kendall, on Mr. Harriſon's principles, was loſing 1",77 on mean time in the ſame ſpace.

Obſervations at the Cape of Good Hope

1772	Equal Altitudes Time by Clock marked B: Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks	
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″		
☉ Nov. 1	45 58	10 48 14	——	53 9 0		☉'s U L	Eaſterly · W B
	48 36	50 54½	53 10			☉'s L L	
☽ —— 2					14 31 36,7		
	14 51	18 12 33½	10 19½	53 9 0		☉'s L L	Weſterly
	17 29½	18 15 14	——			☉'s U L	
♂ —— 3							
	0 26¼	10 2 33¼	4 49	63 24 0		☉'s U L	Eaſterly · W B
	2 55½	5 12½	7 26¼			☉'s L L	
	16 44	19 0	21 16	60 0 0		☉'s U L	
	——	21 30½	23 54			☉'s L L	
☿ —— 4					14 37 2,4		
	——	18 52 42	50 27	60 0 0		☉'s L L	Weſterly Exceeding ſtrong wind
	57 36	18 55 21	53 4¾			☉'s U L	
	11 27	19 9 9½	6 54¼	63 24 0		☉'s L L	
	——	19 11 47½	9 32¼			☉'s U L	
	20 15	10 22 33½	——	59 40 0		☉'s U L	Eaſterly
	22 55	25 10	27 24½			☉'s L L	
♃ —— 5					14 39 42,8		
	56 48	18 54 30	52 14	59 40 0		☉'s L L	Weſterly
	59 25	——	54 52			☉'s U L	
♀ —— 6							

Observations at the Cape of Good Hope, Continued

1772	Equal Altitudes, Time by the Clock marked B: Lower Wire	Middle Wire	Upper Wire	Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks	
		H ″	′ ″	°	H ′		
♀ Nov 6	5 1	10 7 19	9 35½	63 40 0		☉ s U L	Easterly
	7 41	9 57½	12 13¼			☉ s L L	
	16 20	10 18 35	20 53	61 20 0		☉ s U L	
	18 58	21 13½	23 30			☉'s L L	
♄ — 7					14 45 13,76		
	11 45	19 9 28½	7 12½	61 20 0		☉'s L L	Westerly
	14 24½	12 8	9 50½			☉ s U L	
	23 3	19 20 46	18 29¾	63 40 0		☉ s L L	
	25 41½	23 25	21 9¾			☉ s U L	
	6 12	10 8 28½	10 44½	63 51 0		☉ s U L	Easterly, W B
	8 50	10 11 6	13 22½			☉ s L L	
	23 37½	10 25 53½	28 9½	60 15 0		☉'s U L	
	26 15	10 28 32½	—			☉'s L L	
☉ — 8					14 48 0,71		
	10 2	19 7 45	—	60 15 0		☉'s L L	Westerly, W B
	12 38½	10 23¼	8 7½			☉'s U L	
	27 27½	19 25 11	22 55	63 51 0		☉'s L L	
	30 6¼	27 49½	25 32¼			☉ s U L	
	41 14½	11 43 32	45 51½	44 40 0		☉ s U L	Easterly
	43 54½	46 14	48 31½			☉'s L L	
	52 45½	11 55 2¾	57 23	42 20 0		☉ s U L	
	55 28½	57 47¾	0 5			☉'s L L	
☽ — 9					14 50 46,45		
	46 16¼	17 43 58	41 39	42 20 0		☉'s L L	Westerly
	48 59½	46 41	44 21			☉ s U L	
	57 47¼	17 55 29½	53 12	44 40 0		☉'s L L	
	0 28	58 11	55 52½			☉'s U L	
	23 25¼	10 25 40½	27 59½	61 10 0		☉ s U L	Easterly, W B
	26 3½	28 20¼	30 37			☉'s L L	
♂ — 10					14 53 36,82		
	21 24	19 19 7½	16 51¼	61 10 0		☉'s L L	Westerly, W B
	24 2¾	21 47	19 30¼			☉'s U L	
☿ — 11							
	58 23½	10 0 41¼	2 57	67 12 0		☉'s U L	Easterly, W B
	1 3	19 3 20½	5 36½			☉'s L L	
	9 5¾	10 11 22½	13 38	65 0 0		☉'s U L	
	—	10 14 2¼	—			☉'s L L	
♄ — 12					14 59 11,36		
	—	19 44 35¾	—	65 0 0		☉'s L L	Westerly, W B
	42 33	47 16½	44 58¾			☉'s U L.	
	57 35½	19 55 18½	53 1¾	67 12 0		☉ s L L	
	0 16	57 59¼	55 41¼			☉'s U L	

Observations at the Cape of Good Hope, Continued.

1772	Equal Altitudes Time by Clock B: Lower Wire	Middle Wire	Upper Wire	Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks	
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″		
♃ Nov 12	——	12 39 58¾	——	35 0 0		☉'s [illegible]	Easterly
	40 22	——	——			☉'s L [illegible]	
♀ — 13					15 2 2,1		
	23 52	17	——	35 0 0		☉'s [illegible]	Westerly
	——	17 24 16	——			☉'s U L	
	3 15	10 5 32½	7 50¼	67 6 0		☉'s U L	Easterly — W B
	5 55½	8 14¼	10 29½			☉'s L L	
	18 23¼	10 20 39	22 56	64 0 0		☉'s U L	
	21 2½	23 19¼	25 35¼			☉'s L L	
♄ — 14					15 4 52,7		
	49 57	19 46 40¼	44 24	64 0 0		☉'s L L	Westerly — W B
	51 37	49 20½	47 3¼			☉'s U L	
	4 5	20 1 48	59 31¼	67 6 0		☉'s L L	
	6 45½	4 28¼	2 11¼			☉'s U L	

Observed times when the Sun's and Moon's Limbs, and fixed Stars transited the Meridian, together with the Comparisons of the Clocks with each other.

1772	Time by the Clock marked C: First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire		
	″		H				
♂ Nov 3	At 10h 9′ 22″ by B, it was 10h 9′ 0″ by C						
☿ — 4	——	——	14 35 49	36 34	37 16	☉'s First Limb	W B
	36 38½	37 20½	38 5¼	38 49½	39 31	☉'s Second Limb	
	At 14h 41′ 0″ by B, it was 14h 40′ 35½″ by C						
	At 19h 1′ 26″ by B, it was 19h 1′ 0″ by C						
	38 21¼	39 3½	22 39 45¾	40 29¼	41 11	☽'s First Limb	
	——	48 59	22 49 42¼	50 25½	——	α Pegasi	
	At 10h 41′ 32¾″ by B, it was 10h 41′ 0″ by C						
♃ — 5	At 14h 50′ 35¼″ by B, it was 14h 50′ 0″ by C						
	23 31½	24 13	23 24 56¼	25 39	26 20½	☽'s First Limb	W B
	——	55 30	23 56 13¼	56 57½	——	γ Pegasi	
	——	2 39	0 3 27½	4 16½	——	ρ Andromedae	
	——	20 38	0 21 27	22 15½	——	δ Andromedae	
	At 11h 0′ 0″ by B, it was 10h 59′ 11½″ by C						
♀ — 6	——	40 5½	14 40 49¾	41 33½	42 16¼	☉'s First L. cloudy	W B
	41 37½	42 21		——	——	☉'s 2d L	
	At 14h 52′ 0″ by B, it was 14h 51′ 9½″ by C.						

Obſervations at the Cape of Good Hope, Continued

1772	Tranſits of the Sun, Moon and Stars over the Meridian. Time by the Clock C					Phenomena and Remarks
	Firſt Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
			H ′	″		
♀ Nov 6	45 50½	46 31⅕	21	47 56⅕	48 36⅕	α Aquarii — W B
	45 17½	45 59⅕	22 46 43	47 26½	——	α Pegaſi — W B
	53 19	54 2½	23 54 45½	55 29⅕	——	γ Pegaſi — W B
	8 21	9 2¾	0 9 45⅕	10 29	11 10½	☽ s Firſt Limb — W B
	At 0h 14 0 by B, it was 0h 13 3½ by C					
	46 6⅕	46 50¼	1 47 36½	48 22½	——	α Arietis — W B
	At 10h 26 1½′ by B, it was 10h 25 0 by C					
♄ — 7	41 52½	42 36	14 43 19⅕	44 3½	——	☉ s Firſt Limb
	——	44 51	45 35	46 19½	47 1¾	☉ s Second Limb
	At 14h 51 0 by B, it was 14h 49 56″ by C					
	At 19h 27 7⅕″ by B it was 19h 26 0″ by C					
	44 19⅕	45 1¼	21 45 43½	46 26	47 7½	α Aquarii
	47 1½	47 48	23 48 35¼	49 23	50 9⅕	α Andromedæ
	——	52 31	23 53 14	53 53	——	γ Pegaſi
	53 23	54 6	0 54 48	55 30⅕	56 13	☽ s Firſt Limb
	At 0h 59 0 by B it was 0h 57 47 by C					
	At 10h 15′ 18¾″ by B it was 10h 14 0 by C					

This forenoon we examined and adjuſted the line of collimation of the inſtrument, and at noon endeavoured to bring it into the plane of the Meridian, by keeping the Sun's firſt limb at the middle wire, until the Clock ſhewed the time at which it ought to paſs it according to computation; but the ſcrew which turns the inſtrument round in azimuth was too fine to keep pace with the Sun's diurnal motion. Mr Bayley then noted its tranſit at the following wires.

☉ Nov 8	——	——	14	46 26	47 8½	☉ s Firſt Limb — W B
	46 30⅕	47 13⅕	14 47 57½	48 42	——	☉ s Laſt Limb — W B
	At 19h 17 24⅕ by B, it was 19h 16 0″ by Clock C					
	At 12h 11 32⅗′ by B, it was 12h 10 0′ by C					

Moved the Tranſit Inſtrument yet nearer to the Meridian and fixed up two Meridian marks, one at about a mile and a half, and the other about half a mile diſtant.

☽ Nov 9	——	47 29¾	14 48 13¼	48 57¾	——	☉ s Firſt Limb
	——	49 45½	50 30	51 14	——	☉ s Second Limb
	At 14h 54 0″ by B, it was 14h 52′ 27 by C					
	At 18h 1 34½″ by B it was 18h 0 0 by C					
	40 28	41 10¾	22 41 54	42 38½	43 20	α Pegaſi
	41 15	41 59½	1 42 44⅕	43 30½	44 14½	α Arietis
	Cloudy	26 51½	2 27 39½	28 23½	29 5⅕	☽ s Firſt Limb
	At 2h 39 0′ by B, it was 2h 37 21½ by C					
	At 10h 18 42″ by B, it was 10h 17 0 by C					

Observations at the Cape of Good Hope, Continued

1772	Transits of the Sun, Moon, and Stars, over the Meridian Time by the Clock C					Phenomena and Remarks	
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire		
	′ ″	′	H				
♂ Nov 10.	49 24	50 7½	14 50 51½	51 36	——	⊙'s First Limb	W B
	51 40½	——	53 7¼	53 52	51 35	⊙'s Second Limb	
	42 9¾	42 56¼	23 43 43¼	44 31½	45 17¾	α Andromedæ	
	47 4¾	47 47¼	23 48 30½	49 14½	49 56¼	γ Pegasi	
	39 48½	40 33¼	1 41 18½	42 4½	42 48¾	α Arietis	
	35 46¼	36 27½	2 37 9¼	——	38 32½	α Ceti	
	15 3¾	15 47½	3 16 32½	17 17¾	18 0½	☽'s First Limb	
	17 11¼	17 55½	18 40½	19 25¼	20 8¼	☽'s Second Limb	
	8 10¾	8 53½	4 9 37½	10 21¾	11 4¼	Aldebaran	
	At 10h 41′ 51¼″ by B, it was 10h 40′ 0 by C						
☿ —— 11	52 1	52 44¾	14 53 28½	——	——	⊙'s First Limb	
	54 17½	55 1½	55 45¼	56 30	57 12¼	⊙'s Second Limb	
	At 15h 1 0″ by B, it was 14h 59 6′ ½ by C						
	At 10h 18 0″ by B, it was 10h 16′ 0″ by C						
♃ —— 12	54 41	55 24¼	14 56 8¼	56 52¾	——	⊙'s First Limb.	W B
	——	57 41½	14 58 25½	59 10¼	59 52¼	⊙'s Second Limb	
	At 15h. 7 2″ by B, it was 15h 5 0″ by C						
	At 20h 2 4″ by B, it was 20h 0 0″ by C						
	36 57½	37 42¾	1 38 28	39 14¼	39 57¾	α Arietis	W B
	59 35½	0 20¼	5 1 5½	1 51½	——	☽'s Second Limb	
	25 13¼	25 54½	5	27 19½	28 0¼	α Orionis	
	At 5h 8 8 by B it was 5h 6 0 by C						
	At 12h 56 11½ by B it was 12h 54 0 by C						
♀ —— 13	57 19	58 2½	14 58 46½	59 40½	——	⊙'s First Limb	
	——	0 19¼	15 1 3¼	1 47¾	2 31	⊙'s Second Limb	
	At 15h 7 0″ by B, it was 15h 4′ 47¼ by C						
	23 47	24 28	5 25 10½	25 53¼	26 34	α Orionis	
	52 29	53 13¼	5 53 57½	54 44½	55 28	☽'s Second Limb	
	15 47	16 30¼	6 17 14	Cloudy		Syrius	
	At 6h 24 0 by B, it was 6h 21 40″ by C						
	At 10h 27 21½″ by B, it was 10h 25 0 by C						
♄ —— 14	59 59¼	0 42¾	15 1 26¾	2 11¼	——	⊙'s First Limb	W B
	——	3 0¼	15 3 44¼	4 29½	——	⊙'s Second Limb	
	At 15h 7 23½″ by B, it was 15h 5 0 by C						
	At 20h 7′ 27 by B, it was 20h 5 0 by C						
	——	40 23½	6 41 7½	41 51¾	——	Supposed 51st of Geminæ See British Catalogue	W B
	——	46 5½	6 45 45¼	——	——	2da ad λ Gemino	

Obſervations at the Cape of Good Hope, Continued.

1772.	Tranſits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C. First Wire. ′ ″	Second Wire. ′ ″	Middle Wire. H ′ ″	Fourth Wire. ′ ″	Fifth Wire. ′ ″	Phenomena and Remarks.
♄ Nov. 14.	——	46 37¾	6 47 33¼	48 9¼	——	☽'s Second Limb. } W. B.
	——	0 8½	7 0 58½	1 48¾	——	Caſtor. } W. B.
	6 43½	7 25¼	7 8 7½	——	9 30¾	Procyon. } W. B.
	——	11 26½	12 14½	13 2¼	——	Pollux. } W. B.
	At 7 h. 18′ 32½″ by B, it was 7 h. 16′ 0″ by C.					
	At 10 h. 38′ 34″ by B, it was 10 h. 36′ 0″ by C.					
☉ —— 15.	2 38½	3 21¾	15 4 6½	4 50½	——	☉'s Firſt Limb.
	——	5 39½	6 23¾	7 8½	7 51½	☉'s Second Limb.
	At 15 h. 13′ 0″ by B, it was 15 h. 10′ 23½″ by C.					

Obſervations for the Variation of the Compaſs.

1772.	Time by the Clock B. H ′ ″	The Sun's magnetic azimuth. ° ′	Variation Weſt. ° ′	Variation Weſt. ° ′	Variation Weſt. ° ′
♀ Nov 13.	20 20 37	N. 79 55 W.	20 1	21 30	20 50
	22 56	80 0	20 13	21 0	20 30
	24 31	80 0	20 25	21 10	21 0
♄ —— 14.	20 30 30	81 10	19 53	21 15	20 40
	32 39	81 15	20 4½	21 0	21 20
	33 20½	81 40	19 45	21 20	21 10
	33 56	81 50	19 19½	21 15	21 20
	34 58	82 5	19 29½	20 30	21 5
	35 11½	82 15	19 24	20 20	20 50
	20 39 29	82 35	19 37½	20 40	20 40
	40 12	83 0	19 17	20 20	21 5
	41 2	81 5	21 18½	20 25	20 50
	42 52	81 20	21 17½	20 10	20 35
	43 44	83 40	19 4½	20 57	20 55
	44 44	83 45	19 6½		
	45 35	83 45	19 13		
	46 22	81 15	21 50		

The variations contained in theſe two columns, were got by placing the compaſs in the meridian, and turning the index to the meridian mark.

The mean of all the variations found from the time, is 19° 57′ 35″; the mean of all thoſe taken by the Meridian mark, is 20° 55′ 4″; and the mean of both is 20° 26½ Weſt.

Observations at the Cape of Good Hope, Continued

Computations of the Rates at which the two Clocks went

1772	Time of apparent Noon by Clock B	Sydereal Time of apparent Noon	Clock B slow of Sydereal Time	Clock B loses on Sydereal Time	Clock C loses on B	Clock C loses on Syd time
	H	H	′ ″	″	H	
☽ Nov 2	14 31 36,7	14 32 41,4	1 4,7			
				1 14,8		
☿ —— 4	14 37 2,4	14 40 36,7	3 34,3			
				1 18,5	10,8	
♃ —— 5	14 39 42,8	14 44 35,6	4 52,8			
				1 14,6	{ 15,2 13,5	
♄ —— 7	14 45 13,8	14 52 35,7	7 21,9			
				1 14,4	17,4	
☉ —— 8	14 48 0,7	14 56 37,0	8 36,3			
				1 16,5	11,6	
☽ —— 9	14 50 46,4	15 0 39,2	9 52,8			
				1 12,6	9,3	
♂ —— 10	14 53 36,7	15 4 42,1	11 5,4			
				1 16,9	{ 9,3 10,7	
♃ —— 12	14 59 11,4	15 12 50,7	13 39,3			
				1 14,8	10 7	
♀ —— 13	15 2 2,1	15 16 56,2	14 54,1			
				1 15,8	10,7	
♄ —— 14	15 4 52,7	15 21 3,6	16 9,9			′ ″
		Mean Rate of the Clocks		1 15,48	11,92	1 27,35

Computations of the Rate at which Mr Arnold's Watch (N° 1) went, by Mr Bayley

1772	Time by the Watch No. 1	Time by the Clock C	Clock C before Watch No. 1	Watch loses on the Clock between Comparison	Interval of comparison	Watch loses on the Clock in twenty four hours	Clock loses on Sydereal time	Watch loses on Sydereal time	Watch loses on mean time
	H ′ ″	H ′ ″	H	′	H		″	″	″
☿ Nov 4	22 6 0	14 48 0	16 42 0						
♃ —— 5	22 12 0	14 56 54	16 44 54	2 54	24 6	2 53,3	1 29,0	4 22,3	0 25,8
♀ —— 6	22 23 0	15 10 42	16 47 42	2 48	24 11	2 46,6	1 29,1	4 15,7	0 19,2
♄ —— 7	21 37 0	14 27 27½	16 50 27½	2 45½	23 14	2 50,9	1 29,1	4 20,0	0 23,5
☉ —— 8	21 39 0	14 32 11	16 53 11	2 43½	24 2	2 43,5	1 32,8	4 16,3	0 19,8
☽ —— 9	22 6 0	15 2 4½	16 56 4½	2 53½	24 27	2 50,3	1 25,8	4 16 1	0 19,6
♂ —— 10	22 7 0	15 5 55	16 58 55	2 50½	24 1	2 50,5	1 25,8	4 16 3	0 19,8
☿ —— 11	22 2 0	15 3 45½	17 1 45½	2 50½	23 55	2 51,1	1 26,1	4 17,2	0 20,7
♃ —— 12	22 3 0	15 7 37	17 4 37	2 51½	24 1	2 51,5	1 26,1	4 17,6	0 21,1
♀ —— 13	22 22 0	15 29 29	17 7 29	2 52	24 19	2 49,6	1 25,9	4 15 5	0 19 0
♄ —— 14	22 4 0	15 14 14	17 10 14	2 45	23 42	2 47,2	1 25,9	4 13,1	0 16,6
☉ —— 15	22 4 0	15 27 2½	17 13 2½	2 48½	24 0	2 48,5	1 25,9	4 14,4	0 17,9
						Mean Rate of the Watch (N° 1)			0 20,3

Mr Bayley farther computes, that at the time when this Watch was compared with the Clock, on November 4, it was too slow for mean time, at the Cape, by 1 h 49′ 9″ 1

Obſervations at the Cape of Good Hope, Continued.

Computations of the Rate at which Mr. Arnold's Watch (No. 3.) went.

1772.	Time of apparent Noon by the Clock. H ′ ″	Time by the Clock when the Watch was compared. H ′ ″	Time from Noon by the Clock. ′ ″	Clock's gain on Watch. ″	Time from Noon by the Watch. ′ ″	Time by the Watch when compared. H ′ ″	Time of apparent Noon by the Watch. H ′ ″	Mean Time of apparent Noon. H ′ ″	Watch ſlow of mean Time. H ′ ″	Watch gains on mean Time. ′ ″
☽ Nov. 2.	14 31 36,7	14 41 55¼	10 18,55	1 64	10 16,91	19 59 38	19 49 21,09	23 43 47,0	3 54 25,91	
♂ —— 3.	14 34 19,5	15 27 12	52 52,5	8 39	52 44,11	20 41 0	19 48 15,89	23 43 47,8	3 55 31,91	1 6,0
☿ —— 4.	14 37 2,4	14 47 54¼	10 51,85	1 73	10 50,12	19 58 0	19 47 9,88	23 43 49,3	3 56 39,42	1 7,51
♃ —— 5.	14 39 42,8	14 58 55¼	19 7,45	3 67	19 3,78	20 5 0	19 45 56,22	23 43 51,7	3 57 55,48	1 16,06
♀ —— 6.	14 42 28,3	15 15 18¾	32 50,2	5 57	32 44,63	20 17 0	19 44 15,37	23 43 54,9	3 59 39,53	1 44,05
♄ —— 7.	14 45 13,8	14 30 33¾	14 39,5	2 45	14 37,05	19 28 0	19 42 37,05	23 43 58,8	4 1 21,75	1 42,22
☉ —— 8.	14 48 0,7	14 32 57	15 3,7	3 14	15 0,56	19 26 0	19 41 0,56	23 44 3,6	4 3 3,04	1 41,29
☽ —— 9.	14 50 46,4	15 3 23¼	12 36,85	1 96	12 34,89	19 52 0	19 39 25,11	23 44 9,3	4 4 44,19	1 41,15
♂ —— 10.	14 53 36,7	15 7 40¼	14 3,8	2 21	14 1,59	19 52 0	19 37 58,41	23 44 15,8	4 6 17,39	1 33,20
☿ —— 11.	14 56 24,0	15 5 52	9 28,0	1 19	9 26,81	19 46 0	19 36 33,19	23 44 23,2	4 7 50,01	1 32,62
♃ —— 12.	14 59 11,4	15 7 6¼	7 54,85	1 0	7 53,85	19 43 0	19 35 6,15	23 44 31,4	4 9 25,25	1 35,24
♀ —— 13.	15 2 2,1	15 31 22	29 19,88	4 96	29 14,92	20 3 0	19 33 45,08	23 44 40,5	4 10 55,42	1 30,17
♄ —— 14.	15 4 52,7	15 17 37¼	12 45,5	2 29	12 43,21	19 45 0	19 32 16,79	23 44 50,4	4 12 33,61	1 38,19
									Mean Rate of the Watch's loſing	1 30,642

Computations of the Rate that Mr. Kendall's Watch went at.

1772.	Time of apparent Noon by the Clock. H ′ ″	Time by the Clock when the Watch was compared. H ′ ″	Time from Noon by the Clock. ′ ″	Clock's gain on Watch. ′ ″	Time from Noon by the Watch. ′ ″	Time by the Watch when compared. H ′ ″	Time of apparent Noon by the Watch. H ″ ″	Mean Time of apparent Noon. H ′ ″	Watch ſlow of mean Time. H ′ ″	Watch gains on mean Time. ″
☽ Nov. 2.	14 31 36,7	14 41 55½	10 18,8	0 1,1	10 17,7	22 23 0	22 12 42,3	23 43 47,0	1 31 4,7	
♂ —— 3.	14 34 19,5	15 29 42	55 22,5	0 6,2	55 16,3	23 8 0	22 12 43,7	23 43 47,8	1 31 4,1	+ 0,6
☿ —— 4.	14 37 2,4	14 45 19½	8 17,1	0 0,9	8 16,2	22 21 0	22 12 43,8	23 43 49,3	1 31 5,5	— 1,4
♃ —— 5.	14 39 42,8	14 56 59	17 16,2	0 1,9	17 14,3	22 30 0	22 12 45,7	23 43 51,7	1 31 6,0	— 0,5
♀ —— 6.	14 42 28,3	15 13 40	31 11,7	0 3,5	31 8,2	22 44 0	22 12 51,8	23 43 54,9	1 31 3,1	+ 2,9
♄ —— 7.	14 45 13,8	14 28 14½	16 59,3	0 1,9	16 57,4	21 56 0	22 12 57,4	23 43 58,8	1 31 1,4	+ 1,7
☉ —— 8.	14 48 0,7	14 34 55½	13 5,2	0 1,5	13 3,7	22 0 0	22 13 3,7	23 44 3,6	1 30 59,9	+ 1,5
☽ —— 9.	14 50 46,4	15 3 38½	12 52,1	0 1,4	12 50,7	22 26 0	22 13 9,3	23 44 9,3	1 31 0 0	— 0,1
♂ —— 10.	14 53 36,7	15 6 18¼	12 41,6	0 1,4	12 40,2	22 26 0	22 13 19,8	23 44 15,8	1 30 56,0	+ 4,0
☿ —— 11.	14 56 24,0	15 7 55¾	11 31,8	0 1,3	11 30,5	22 25 0	22 13 29,5	23 44 23,2	1 30 53,7	+ 2,3
♃ —— 12.	14 59 11,4	15 6 34½	7 23,1	0 0,8	7 22,3	22 21 0	22 13 37,7	23 44 31,4	1 30 53,7	+ 0,0
♀ —— 13.	15 2 2,1	15 33 16¼	31 14,1	0 3,5	31 10,6	22 45 0	22 13 49,4	23 44 40,5	1 30 51,1	+ 2 6
♄ —— 14.	15 4 52,7	15 16 54	12 1,3	0 1,3	12 0,0	22 26 0	22 14 0,0	23 44 50,3	1 30 50,3	+ 0,8
									Mean Rate of the Watch's gaining	1,2

Obſervations at the Cape of Good Hope, Continued

Comparifons of the Tranſit Inſtrument with equal Altitudes

1772	Time of the ☉'s Tranſit by the Clock C	Clock B before C	Time of the ☉'s Tranſit by the Clock B	Time of apparent Noon by the equal Altitudes	☉ tranſits after Noon	Horizontal Error of the Inſtrument
	H ′ ″	′ ″	H ′ ″	H ′ ″	″	
☿ Nov 4	14 36 57,30	0 24,46	14 37 21,76	14 37 2,4	19,36	14 51
♄ —— 7	14 44 27,31	1 3,96	14 45 31,27	14 45 13,8	17,47	14 0
	Altered the Inſtrument					
☽ —— 9	14 49 21,54	1 33,00	14 50 54 51	14 50 46,4	8 14	6 43
♃ —— 12	14 57 16,95	2 1,94	14 59 18,89	14 59 11,4	7,49	6 28
♀ —— 13	14 59 55,09	2 12,7	15 2 7,79	15 2 2,1	5,69	4 59
♄ —— 14	15 2 35,85	2 23,5	15 4 59,35	15 4 52,7	6,65	5 55

Of the Dip of the Magnetic Needle

The dipping Needle which we took on ſhore at this place was ſo much out of balance, and ſo difficult to get in again, that, notwithſtanding we both of us ſpent all the leiſure time we had from other obſervations, we did not get it perfectly adjuſted before we went away; and of courſe were not able to get any obſervations of that kind at this time

Obſervations made at Duſky Bay, in New Zealand.

1773.	Equal Altitudes. Times by Clock B. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diſtance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
☉ April 4.						
	59 58	22	6 31½	65 20 0		☉'s U. L. Eaſterly.
	4 3	22	—			☉'s L. L.
☽ — 5.					1 4 36,4	
	—	4 1 18	—	65 20 0		☉'s L. L. Weſterly.
	—	—	2 6			☉'s U. L.
	1 10	22 4 25:	7 38½	66 0 0		☉'s U. L. Eaſterly.
	—	8 26	—			☉'s L. L.
♂ — 6.					1 8 20,0	
	10 51	4 7 34	—	66 0 0		☉'s L. L. Weſterly.
	14 55	11 39½	8 26			☉'s U. L.
♄ — 10.	45 47½	21 48 45½	51 46½	72 20 0		☉'s U. L. Eaſterly.
	49 26	52 30	—			☉'s L. L.
	4 21	22 7 30	—	69 40 0		☉'s U. L.
	8 14	11 24	—			☉'s L. L.
	21 25	22 24 45	28 5	67 20 0		☉'s U. L.
	25 29	28 49	32 7			☉'s L. L.
☉ — 11.					1 26 50,9	
	27 38	4 24 13	20 58	67 20 0		☉'s L. L. Weſterly.
	31 41	28 22	25 4			☉'s U. L.
	44 53	4 41 46	—	69 40 0		☉'s L. L.
	48 44	45 37½	—			☉'s U. L.
	3 36	5 0 35	—	72 20 0		☉'s L. L.
	7 19	4 19	1 21			☉'s U. L.
♀ — 1	14 38:	23 18 26	22 15	65 20 0		☉'s U. L. Eaſterly.
	19 16	23 9	27 4			☉'s L. L.
♄ — 17.					1 49 17,5	
	—	4	10 58	65 20 0		☉'s L. L. Weſterly.
	—	—	16 47			☉'s U. L.
	35 52½	22 39 12	42 25½	71 0 0		☉'s U. L. Eaſterly.
	39 55½	43 11½	46 27			☉'s L. L.
☉ — 18.					1 53 4,75	
	5 37¾	5 2 23½	59 9	71 0 0		☉'s L. L. Weſterly.
	9 40	6 24	3 11			☉'s U. L.
	The Clock ſtopped a few ſeconds in winding up.					
	—	23 8 28	—	68 0 0		☉'s U. L. Eaſterly.
	9 16½	12 53:	—			☉'s L. L.
☽ — 19.					1 56 41,9	
	—	4 39 57:	—	68 0 0		☉'s L. L. Weſterly.
	—	—	40 55:			☉'s U. L.
	37 43	22 40 57½	44 10½	72 20 0		☉'s U. L. Eaſterly.
	41 41	44 55½	48 11			☉'s L. L.

Obſervations at Duſky Bay, Continued

1773	Equal Altitudes Times by Clock B: Lower Wire ′ ″	Middle Wire H ′ ″	Upper Wire ′ ″	Zenith Diſtance ° ′ ″	Time of apparent Noon by the Clock H ′ ″	Phenomena and Remarks
☽ April 19	11 7½	23 14 41	18 19	68 0 0		☉'s U L } Laſterly
	15 31	19 12	22 50½			☉'s L L
♂ — 20					2 0 29,65	
	44 53	4 41 14	37 36½	68 0 0		☉'s L L } Weſterly
	49 20	45 45	42 9			☉'s U L
	18 44	5 15 29	——	72 20 0		☉'s L L
	22 39	19 28	16 13			☉'s U L
	38 45½	22 41 57	45 8	73 0 0		☉'s U L } Eaſterly
	42 40	45 54	49 9			☉'s L L
	——	23 15 27	19 1½	68 40 0		☉'s U L
	16 16	19 54	23 32			☉'s L L
☿ — 21					2 4 17,8	
	51 44½	4 48 7½	44 29½	68 40 0		☉'s L L } Weſterly
	——	52 35	49 0			☉'s U L
	——	5 22 8½	18 51½	73 0 0		☉'s L L
	29 16	26 4½	22 54			☉'s U L
♄ — 24	26 15¼	10 30 28½	34 47½	66 0 0		☉'s U L } Eaſterly
	31 27	35 48¾	40 14½			☉'s L L
☉ — 25					12 44 41,7	By Mr Kendall's Watch
	57 24	14 53 1¾	48 36¾	66 0 0		☉'s L L } Weſterly
	2 36	58 21	54 4½			☉'s U L

In theſe laſt Obſervations the time was noted by the Watch made by Mr Kendall, the Clock having been taken down on the 22d

1773	Meridian Zenith Diſtances of the Sun and Stars: Interior Arch ° ′ ″	Exterior Arch G S V	″	Barom	Thermom	Phenomena and Remarks
☽ April 5	51 37 10	55 0 8	+ 11	29 96	54	☉'s U L
♂ — 6	51 33 34	54 3 31	+ 24	30 35	51	Procyon
☉ — 11	54 24 28	58 0 4	+ 20	30 13	54	☉'s L L
	51 33 10	54 3 31	+ 21	30 18	50	Procyon
	0 52 54	0 3 24	— 24	30 19	50	γ Navis plane of the Quadrant Weſt
	23 0 0	24 2 5	+ 6	30 18	48½	β Navis above the Pole
♃ — 15	55 50 56	59 2 9	+ 26	29 99	53	☉'s L L
♀ — 16	55 40 20	59 1 17	+ 22	30 4	58	☉'s U L
	51 33 14	54 3 31	+ 18	29 98	49	Procyon
	0 53 4	0 3 26	0	29 97	48½	γ Navis } Plane of the Quadrant Eaſt
	8 5 16	8 2 17	+ 20	29 96	48	δ
	22 59 38	——	——	29 96	47½	β —— above the Pole
♂ — 18	56 22 14	60 0 17	+ 20	29 95	58¾	☉'s U L

Obſervations at Duſky Bay, Continued.

1773.	Meridian Zenith Diſtances of the Sun and Stars. °	′	″	G	S	V.	″	Barom.		Thermom.	Phenomena and Remarks.
☉ April 18.	61	33	28	55	0	0	+ 10	29	90	52	Procyon.
	0	53	26	0	3	24	— 10	29	90	51½	γ Navis } Plane of the Quadrant Weſt.
	8	5	50	8	2	16	— 9	29	90	50¾	δ —— }
	*22	59	38	24	2	4	+ 4	29	90	50½	β —— above the Pole.
☿ —— 21.	8	5	40	8	2	15	0	29	65	46	δ Navis plane of the Quadrant Weſt.
	22	59	18	24	2	3	+ 20	29	65	45	β —— above the Pole.
♃ —— 22.	58	16	41	62	0	21	+ 19	29	67	53	☉'s L. L.
	0	52	45	0	3	25	0	29	66	45	γ Navis } Plane of the Quadrant Eaſt.
	8	5	21	8	2	17	+ 22	29	66	45	δ —— }

* In making the above Obſervations, I eſtimated the ſeconds on both arches by the eye, on account of a defect in the tangent ſcrew of the aſtronomical quadrant, or the apparatus which carries it, I could not diſcover which; the ſcrew being liable, ſometimes, to turn half way round without altering the vernier.

N. B. This is the ſame quadrant which Captain Cook and Mr. Green uſed at Otaheite, and poſſibly got injured when in the hands of the natives; if this was the caſe, it is highly probable that the diſagreement in their meridian zenith diſtances (See p. 406, Philoſophical Tranſactions, vol. LXI.) aroſe from this cauſe.

Lunar Obſervations for the Longitude of the Place.

1773.	Time by the Clock. H	′	″	Diſtance ☉ and ☽'s Limbs. °	′	″	Zenith Diſtance ☽'s L. L. °	′	″	Double Alt. of ☉'s L. L. ° ″	Barom.	Thermom.	Longitude Eaſt. ° ′ ″
☿ April 14.				+	1	35½	+		12	Corrections of the Quadrants.			
	0	7	42	78	1	45	54	10	0				
		9	37	78	0	45	54	35	45		29,99	52	166 27 45
		13	10	77	57	30	55	3	0				
		16	7	77	57	0	55	31	45				
		18	31	77	56	0	55	57	0				
		21	2	77	56	0	56	21	0		29,99	52	166 24 45
♄ —— 17.				+	1	39½		+	12	Corrections of the Quadrants.			
				+	0	30½		+	12		Ditto		
	21	34	44	43	46	45	46	36	15				
		38	30		45	0		19	45				
		40	12		44	30		9	30		29,94	51½	166 3 18
		41	44		44	30		3	0				
		44	0		43	0	45	51	0				

Observations at Dusky Bay, Continued

Lunar Observations

1773	Time by the Clock	Distance ☉ and ☽'s Limbs	Zenith Distance ☽ s L L	Double Alt of ☉ s L L	Barom	Thermom	Longitude East
	H ′ ″	° ′	°	′ ″			° ″
♄ April 17	21 48 21	43 41 45	45 30 0				
	52 34	41 15	11 45		29,94	51½	166 24 3
	54 38	40 30	2 45				
	56 46	40 0	44 54 15				
		+ 0 36½	+ 12	Corrections of the Quadrants			
	0 32 25	42 53 0	46 36 0	60 47			
	37 24	50 15	47 5 30	61 25			
	39 22	50 0	15 45	61 40	29 95	58	166 4 10½
	41 36	50 0	27 30	61 54			
	44 24	48 45	43 45	62 12			
	55 23	46 0	48 51 0	63 29			
	58 6	45 0	49 7 0	63 47			
	1 0 20	43 45	26 0	64 5	29 95	58	166 24 55½
	3 16	43 0	41 0	64 14			
	5 23	42 30	54 15	64 25			
			+ 12	′ ″ −10 15	Corrections of the Quadrants		
☉ —— 18	19 18 38	60 30 0	74 16 15				
	23 58	32 0	73 26 0		29 87	43	165 18 21
	27 45	33 0	72 50 15				
	31 33	34 0	72 12 0				
	35 25	36 0	71 37 0				
	40 4	37 0	70 52 30				
	43 14	37 30	70 23 15		29 87	43	165 14 45
	46 22	39 0	69 55 0				
	49 24	40 30	69 26 0				
		− 15	+ 12	Corrections of the Quadrants			

The mean of all these Observations gives the Longitude of the Observatory 166° 2 46½″ E
If the Observations of the ☽'s distance from α Aquilæ be rejected, it will be 166° 18 9″ East.

Obfervations at Dufky Bay, Continued.

Obfervations for finding the Variation of the Compafs.

1773.	Zenith Dift. ☉'s U. L. ° ′	Azimuth of the ☉'s center. ° ′	Double Altit. of the ☉'s L. L. ° ′		Variation Eaft. ° ′
♄ April 17.	Knight's Compafs.	N. 17 35 E.	56 20		
		17 25	56 $29\frac{1}{2}$		
		17 30	56 36		12 $38\frac{1}{8}$
		17 20	56 45		
		17 0	56 52		
	Correction of the Quad.		+ 0 34′		
☽ —— 19.	80 $30\frac{1}{4}$	N. 47 55 E.	By another Knight's Compafs.		
	79 $40\frac{1}{2}$	46 25			
	79 18	45 30			15 $6\frac{1}{4}$
	78 54	45 25			
	78 $40\frac{1}{4}$	47 0			
	70 $36\frac{1}{4}$	N. 34 35 E.	Gregory's Compafs.		
	70 16	35 15			
	69 $57\frac{1}{4}$	33 50			13 $25\frac{2}{5}$
	69 $42\frac{1}{4}$	34 10			
	69 $17\frac{3}{4}$	32 20			
☿ —— 21.	69 $26\frac{1}{4}$	N. 60 10 W.	Gregory's Compafs.		
	69 $46\frac{1}{4}$	60 45			
	70 $0\frac{1}{4}$	60 30			14 $5\frac{1}{3}$
	70 14	60 50			
	70 $27\frac{1}{4}$	61 0			
	70 $43\frac{1}{4}$	64 0			
	+ 12″ Correction of the Quad.				

*** Between every one of thefe Obfervations, except thofe in the firft fet, I turned the compafs quite round, fometimes one way, and fometimes the other; a precaution which, I am convinced from experience, is neceffary to be taken by thofe who would obtain the true quantity of the variation by an azimuth compafs on fhore.

Obfervations of the Dip of the Magnetic Needle.

	Face of the Inftrument. Eaft. ° ′	Face of the Inftrument. Weft. ° ′	
♂ April 13.	71 5	70 45	
	70 20	70 20	
	70 35	70 0	
	70 40	70 $21\frac{2}{3}$	Means.
	Changed the Poles.		
	70 45	71 35	
	70 0	71 0	
	70 15	71 50	
☽ —— 19.	68 10	69 35	
	68 0	69 30	
	69 26	70 42	Means.
	Altered the balancing		
	69 20	69 35	
	69 5	69 0	
	70 10	69 0	
	69 $31\frac{2}{3}$	69 $11\frac{2}{3}$	Means.
♂ —— 20.	Changed the Poles.		
	70 10	70 6	
	69 35	69 5	
	69 0	68 55	
	70 10	70 30	
☿ —— 21.	72 5	71 10	
	72 5	71 35	
	70 $39\frac{1}{8}$	70 $13\frac{1}{3}$	Means.
	70 $4\frac{1}{3}$	70 $7\frac{1}{8}$	Mean of all the means.
	70 5,6	Mean of the two, or Dip of the Needle's So. End.	

The Needle was not readily balanced here; but it was done with much lefs trouble than at the Cape of Good Hope, owing, probably, to the change in the dip being lefs between that place and this than between that and England, or poffibly from its having contracted lefs ruft.

Obſervations at Duſky Bay, Continued

Obſervations on the Tides

1773	Apparent Time H ′ ″	Time by the Clock. H ′	Water below a certain Mark F I	Remarks
♂ April 6		23 30	2 4	High Water
☿ —— 7		2 44	6 11	
		2 49	7 1	
	4 28 46	5 41½	10 5	Low Water
		8 33	7 1	
		8 40	6 11	
		9 26	5 4	
		9 32	5 2	
		9 40	4 11	
	10 57 1	12 10½	2 10	High Water
		14 41	4 11	
		14 49	5 2	
		14 56	5 4	
		21 58½	4 11	
		22 20	4 6	
		22 36	4 0	
		22 45	3 8	
	23 1 35	0 17½	2 8	High Water
♃ —— 8		1 54	3 8	
		1 59	4 0	
		2 17	4 6	
		2 28	4 11	
			10 6	Low Water
		10 58	4 4	
		11 11	3 11	
		11 26	3 6	
		11 37	3 3	
	11 27 10	13 45	2 6	High Water
		13 50	3 3	
		14 4	3 6	
		14 21	3 11	
		14 36	4 4	
	17 37 47	18 56¼	10 5	Low Water,
		23 9	4 6	
		23 16	4 4	
		23 22	4 2	
		23 32	3 11	
	23 53 19	1 12½	2 8	High Water
♀ —— 9		2 55	3 11	
		3 3	4 2	
		3 9	4 4	
		3 16	4 6	
			10 6	Low Water Evening
			10 1	Low Water Morning
	This forenoon the tube got moved out of its place by ſome means or other; I replaced it and then made the following Obſervations,			
		23 46	4 8	
		23 57	4 5	
		0 17	3 10	
♄ —— 10	0 46 23	2 9¾	2 10	High Water
		4 0	3 10	

1773	Apparent Time H ′ ″	Time by the Clock H ′	Water below a certain Mark F I	Remarks.
♄ April 10		4 5	4 5	
		4 33	4 8	
			10 0	Low Water Evening
			10 11	Ditto, Morning
☉ —— 11			3 2	High Water Aftern
			9 8	Low Water, Morning
		0 37	7 2	
		0 44	7 1	
		1 37	5 9	
		1 45	5 6	
		1 52	5 3	
☽ —— 12	2 42 52	4 13½	3 6	High Water
		6 33	5 3	
		6 40	5 6	
		6 50	5 9	
		7 57	7 2	
			9 4	Low Water, Morning
♂ —— 13		3 58	4 5	
		4 4	4 9	
		4 10	4 0	
	3 32 2	5 3½	3 8	High Water
		5 45	4 0	
		6 2	4 3	
		6 14	4 5	
		21 13	6 7	
		21 29	6 10	
		21 42	7 1	
	12 22 51	0 0½	8 10	Low Water
☿ —— 14		2 23	7 1	
		2 34	6 10	
		2 48	6 7	
		4 30	4 10	
		4 40	4 7	
		4 52	4 4	
		6 29	3 6	High Water
	4 50 11	8 4	4 4	
		8 19	4 7	
		8 29	4 10	
♃ —— 15			3 11	High Water
		0 25	7 3	
		0 31	7 5	
		0 47	7 9	
♀ —— 16	0 44 20	2 30½	8 4	Low Water
		4 10	7 9	
		4 28	7 5	
		4 40	7 3	
		0 7	4 1	
		20 25	3 10	
	19 20 55	21 9½	3 7	High Water
		21 51	3 10	
		22 15	4 1	

Observations at Dusky Bay, Continued.

Observations on the Tides.

1773.	Apparent Time. H ′ ″	Time by the Clock. H ′	Water below a certain Mark. F.	I.	Remarks.
♀ April 16.		23 45	5	4	
		0 5	5	7	
		0 27	6	0	
		0 54	6	6	
♄ — 17.	1 47 33	3 37¼	8	5	Low Water.
		6 20	6	6	
		6 42	6	0	
		7 13	5	7	
		7 31	5	4	
		7 50	4	9	
	8 4 48	9 55½	3	7	High Water.
		11 56	4	9	
		12 20	5	4	
		12 39	5	7	
		13 12	6	0	
		20 16	4	9	
		20 32	4	5	
		20 47	4	2	
	20 14 40	22 7½	3	7	
		23 25	4	2	High Water.
		23 40	4	5	
		0 3	4	9	
☉ — 18.			8	4½	Low Water.
			3	6	High Water, Evening.
		20 50	4	9	
		21 13	4	4	
		21 37	4	0	
	21 1 56	22 56½	3	5	High Water.
		0 14	4	0	
		0 40	4	4	
		1 4	4	9	

Made a new rod to my instrument, the former having, by accident, got broke, and the distance from the bottom of the float to the first division being shorter by 1½ inches than in the former; this will give all distances of the water from the mark greater by that quantity.

1773.	Apparent Time. H ′ ″	Time by the Clock. H ′	Water below a certain Mark. F.	I.	Remarks.
☽ — 19.		10 3	3	11	
		10 24	3	9	
	9 17 5	11 14½	3	5½	High Water.
		12 5	3	9	
		12 25	3	11	
		22 4	4	3	
		22 26	3	11	
		22 42	3	9	
	21 41 32	23 41⅓	3	4	High Water.
		0 37	3	9	
		0 56	3	11	
		1 23	4	3	
♂ — 20.		4 25	7	11	
		4 55	8	4	
	3 49 24	5 50¼	8	6	Low Water.

1773.	Apparent Time. H ′ ″	Time by the Clock. H ′	Water below a certain Mark. F.	I.	Remarks.
♂ April 20.		6 42	8	4	
		7 20	7	11	
		10 59	3	7	
		11 16	3	4	
	9 56 10	11 58¼	3	2	High Water.
		12 33	3	4	
		13 5	3	7	
		22 19	4	4	
		22 46	4	0	
		22 57	3	10	
	22 20 48	0 24½	2	11	High Water.
☿ — 21.		1 55	3	10	
		2 5	4	0	
		2 27	4	4	
		4 40	7	4	
		4 52	7	6	
	4 30 14	6 35¼	8	5	Low Water.
		8 19	7	6	
		8 30	7	4	
		11 14	3	7	
		11 26	3	5	
		11 43	3	3	
	10 29 2	12 35	2	10	High Water.
		13 28	3	3	
		13 42	3	5	
		13 57	3	7	
			8	6	Low Water.
		23 54	3	6	
		0 27	3	2	
	22 57 2	1 5	2	10	High Water.
		1 45	3	2	
♃ — 22.		2 14	3	6	
			8	7	Low Water.
		12 10	3	7	
		12 28	3	4	
		12 42	3	2	
	11 9 26	13 19½	2	10	High Water.
		13 56	3	1	
		14 10	3	4	
		14 30	3	7	
	17 26 36	19 37½	8	7½	Low Water, Morning.
		23 59	4	2	
		0 45	3	7	
	23 30 8	1 42	3	0	High Water.
♀ — 23.		2 38	3	7	
		3 26	4	2	
			8	8	Low Water, Evening
			3	1	High Water.
			8	7	Low Water, Morning.
		12 1	3	7	
		12 26	3	4	
♄ — 24	0 3 13	12 48	3	2	High Water.

Obſervations at Duſky Bay, Continued

Obſervations on the Tides

1773	Apparent Time. H	′	″	Time by the Clock H	′	Water below a certain Mark F	I	Remarks
♄ April 24				13	10	3	4	
				13	35	3	7	
				5	12	7	8	
				5	47	8	3	
	18	1	2	6	45¾	8	6	Low Water
				7	44	8	3	
				8	20	7	8	
☉ —— 25						8	5	Low Water
☉ April 25				11	45	4	6	
				12	15	4	0	
☽ —— 26	0	41	59	13	20¼	3	6½	High Water
				14	35	4	0	
				15	10	4	6	
						8	4	Low Water Evening
						8	4	LowWater Morning

I made the preceding Obſervations by the help of a wooden tube, about 12 fee tlong and three inches ſquare, which was placed upright in the water, and fixed firm to a large tree that hung over it. The tube had a ſmall aperture at the bottom, whereby the water was admitted, ſo that the ſwell of the ſea had little effect on the water in the tube; and the diſtance of the water from a mark on the top of the tube, was meaſured by a ſlender rod, divided into feet and inches, from the bottom upwards.

Obſervations at Duſky Bay, Continued.

The Latitude of Duſky Bay, deduced from Obſervations of the Sun and fixed Stars, when on the Meridian.

	Interior Arch.	Exterior Arch.
	″	″
The error of the line of collimation, of the Quadrant, by a mean of the four Obſervations of γ Navis.	10,2 Add.	28,2 Subt.
By a mean of the four Obſervations of δ Navis.	13,2 Add.	32,2 Subt.
The mean of two gives	11,7 Add.	30,2 Subt.

1773.	Latitude by interior Arch.	Latitude by exterior Arch.	Declination.
	° ′ ″	° ′ ″	° ′ ″
	By Obſervations of the Sun.		
☽ April 5.	45 47 2	45 46 37	6 7 32
☉ —— 11.	45 48 12½	45 47 38	8 21 47½
♃ —— 15.	45 47 56	45 47 34	9 48 37¾
♀ —— 16.	45 47 56¼	45 47 33½	10 9 57
☉ —— 18.	45 47 44	45 47 30¾	10 52 5¾
♃ —— 22.	45 48 15½	45 47 55	12 14 13¼
	45 47 51	45 47 29	Mean of all by the Sun.
	By Obſervations of Procyon.		
♂ —— 6.	45 47 25½	45 46 52	5 47 30¾ N.
☉ —— 11.	45 47 2	45 46 49½	
♀ —— 16.	45 47 6	45 46 46½	
☉ —— 18.	45 47 20¾	45 47 5½	
	45 47 13½	45 46 53½	Mean of all by Procyon.
	By Obſervations of β Navis.		
☉ —— 11.	45 46 47	45 47 3½	68 47 11 S.
♀ —— 16.	45 47 9½	——	
☉ —— 18.	45 47 10	45 47 33	
☿ —— 21.	45 47 30	45 47 43½	
	45 47 9	45 47 26⅔	Mean of all by β Navis.

1773.	Latitude by interior Arch.	Latitude by exterior Arch.	Declination.	
	° ′ ″	° ′ ″	° ′ ″	
	By Obſervations of γ Navis.			
☉ April 11.	45 48 0	45 47 52	46 40 31½	South.
♀ —— 16.	45 47 26½	45 47 36		
☉ —— 18.	45 47 18	45 47 38		
♃ —— 22.	45 47 45½	45 48 2		
	45 47 37½	45 47 47	Mean of all by γ Navis.	
	By Obſervations of δ Navis.			
♀ —— 16.	45 47 35½	45 47 38½	53 52 58½	South.
☉ —— 18.	45 47 24¾	45 47 32½		
☿ —— 21.	45 47 35	45 47 44		
♃ —— 22.	45 47 30½	45 47 35½		
	45 47 31½	45 47 37¼	Mean of all by δ Navis.	
	45 47 37½	45 47 47	Ditto, γ.	
	45 47 9	45 47 26⅔	Ditto, β.	
	45 47 26	45 47 37	Mean of all the Southern Obſerv.	
	45 47 51	45 47 29	Mean of all by the Sun.	
	45 47 13	45 46 53½	Mean of all by Procyon.	
	45 47 32¼	45 47 11¼	Mean of all by Northern Obſerv.	
	45 47 26	45 47 37	Ditto, Southern Obſervations.	
	45 47 29⅛	45 47 24¼	Ditto of the two.	

And by taking the Mean of the two Arches, the Latitude is 45° 47′ 26⅔″ South.

*** Three double altitudes of the Sun's Limb, taken with Hadley's Quadrant from a quickſilver horizon, gave the Latitude of the Obſervatory 45° 48′ 44″, 45° 47′ 30″, and 45° 47′ 23″; the mean of which is 45° 47′⅞ South.

Obſervations at Duſky Bay, Continued

Computations of the Clock's Rate of going

1773	Time of Noon by the Clock	Syderial Time of apparent Noon	Mean Time of apparent Noon	Clock faſt of Sydereal Time	Clock faſt of mean Time	Clock gains on Syderial Time	Clock gains on mean Time
	H ′ ″	H ′ ″	H ′ ″	′ ″	H ′ ″	′ ″	′ ″
☽ April 5	1 4 36 4	0 57 15 0	0 2 45 3	7 21 4	1 1 51 1		
♂ —— 6	1 8 20 0	1 0 53 7	0 2 27 5	7 26 3	1 5 52 5	0 4 9	4 1 4
☉ —— 11	1 26 50,9	1 19 10 7	0 1 2 0	7 40 2	1 25 48 9	0 2 8	3 59 3
♄ —— 17	1 49 17 9	1 41 17 2	23 59 29 5	8 0 7	1 49 48 4	0 3 4	3 59,9
☉ —— 18	1 53 4,7	1 44 59 7	23 59 15 4	8 5 0	1 53 49 3	0 4 3	4 0 9
☽ —— 19	1 56 41 9	1 48 42 6	23 59 1 7	7 59 3	1 57 40 2	Clock ſtopped	
♂ —— 20	2 0 29 6	1 52 25,8	23 58 48 5	8 3 8	2 1 41 1	0 4 5	4 0,9
☿ —— 21	2 4 17 8	1 56 9 5	23 58 35 7	8 8 3	2 5 42 1	0 4 5	4 1 0
					Mean gain of the Clock	0 4 066	4 0 566

Computations of the Rate that Mr Kendall's Watch went at

1773	Time of apparent Noon by the Clock	Time by Clock when the Watch was compared	Time from Noon by the Clock	Clock gains on Watch	Time from Noon by the Watch	Time by the Watch when compared	Time of apparent Noon by the Watch	Mean Time of apparent Noon	Watch ſlow of mean Time	Watch gains on mean Time
	H ′ ″	H ′ ″	′ ″	′ ″	′ ″	H ′ ″	H ′ ″	H ′ ″	H ′ ″	″
♂ April 6	1 8 20,0	1 30 0	21 40 0	3 6	21 36 4	13 8 47½	12 47 10 85	0 2 27 5	11 15 16,65	
☉ —— 11	1 26 50 1	1 43 0	16 9 1	2 7	16 6 4	13 2 2 ½	12 46 14 1	0 1 1 9	11 14 47 8	3 77
♄ —— 17	1 49 17 5	1 59 0	9 42 5	1 6	9 40 9	12 55 12¼	12 45 31 85	23 59 29 5	11 13 57 65	3 36
☉ —— 18	1 53 4	2 28 0	34 55,3	5 8	34 49 5	13 20 12½	12 45 23 0	23 59 15 4	11 13 52 4	2 25
☽ —— 19	1 56 41 5	2 1 0	4 18 1	0 7	4 17 4	12 49 31½	12 45 14 1	23 59 1 7	11 13 47 6	4 60
♂ —— 20	2 0 29 1	2 33 0	32 30 4	5 4	32 25 0	13 17 34	12 45 9 0	23 58 48 5	11 13 39 5	8 10
☿ —— 21	2 4 17 8	2 20 0	15 42 2	2 6	15 39 6	13 0 42½	12 45 2 9	23 58 35 7	11 13 32 8	6 70
						By the Watch itſelf	the Clock being	taken down		6 38
☉ —— 25	12 44 41 7	12 43 57 5	0 43 2	0,0	0 43 2	12 43 57½	12 44 41 7	23 57 49 0	11 13 7 3	
									The mean of all is	4 86

But if the firſt and laſt be taken only, the rate of the Watch will be gaining 6″808 on mean time each day. If a mean be taken of all the Compariſons which can be formed out of the above, its gain on mean time will be 6″,726

Obſervations at Duſky Bay, Continued.

Computations of the Rate at which Mr. Arnold's Watch (No. 3.) went.

1773.	Time of apparent Noon by the Clock.	Time by Clock when the Watch was compared.	Time from Noon by the Clock.	[illegible]	Time from Noon by the Watch.	Time by the Watch when compared.	Time of apparent Noon by the Watch.	Mean Time of apparent Noon.	Watch ſlow of mean Time.	Watch gains on mean Time.
	H ′ ″	H ′ ″	′ ″	″	′ ″	H ′ ″	H ′ ″	H ′ ″	H ′ ″	″
♂ April 6.	1 8 20,0	1 30 0	21 40,0	5,13	21 34,87	9 35 57,75	9 14 22,88	0 2 27,5	14 48 4,62	
☉ —— 11.	1 26 50,9	1 43 0	16 9,1	3,78	16 5,32	9 21 18,50	9 5 13,18	0 1 1,9	14 55 48,72	93,22
♄ —— 17.	1 49 17,5	1 59 0	9 42,5	2,26	9 40,24	9 2 17, 0	8 52 36,76	23 59 29,5	15 6 52,74	110,67
☉ —— 18.	1 53 4,7	2 28 0	34 55,3	8, 0	34 47,30	9 25 33,75	8 50 46,45	23 59 15,4	15 8 28,95	96,21
☽ —— 19.	1 56 41,5	2 1 0	4 18,1	1,03	4 17, 7	8 53 9, 0	8 48 51,93	23 59 1,7	15 10 9,77	100,82
♂ —— 20	2 0 29,6	2 33 0	32 30,4	7,47	32 22,93	9 19 18,50	8 46 55,57	23 58 48,5	15 11 52,93	103,16
☿ —— 21.	2 4 17,8	2 20 0	15 42,2	3,61	15 38,59	9 0 49,75	8 45 11,16	23 58 35,7	15 13 24,54	91,61
					By Mr. Kendall's Watch, the Clock being taken down.					
☉ —— 25.	12 44 41,7	12 43 57,5	0 43,2	0, 51	0 43,15	8 37 0, 0	8 37 43,15	23 57 49,0	15 20 6,85	100,58
									The mean of all is	99,467

But if the firſt and laſt day's Obſervations be taken only, the gain of this Watch, each day, on mean time, will come out 101″,17. If a mean be taken of all the compariſons which can be formed out of the above Obſervations, its gain each day, on mean time, will be 101″,051.

Observations at Queen Charlotte's Sound, in New Zealand, made by Mr Bayley

1773	Equal Altitudes Times by Clock, marked C: Lower Wire ' "	Middle Wire H ' "	Upper Wire ' "	Zenith Distance ° ' "	Transit over the Meridian H ' "	Phenomena and Remarks	
☽ April 19	51 34	21 54 25	57 19½	75 25 0		☉'s U L	Easterly
	54 49¼	21 57 44½	0 35			☉'s L L	
	16 50¼	22 19 53½	22 57½	71 23 0		☉'s U L	
	20 18	22 23 22½	—			☉'s L L	
	33 1	22 36 11	39 22	68 55 0		☉'s U L	
	36 37¼	22 39 49½	—			☉'s L L	
♂ —— 20					1 51 56 5		
	6 47	5	—	68 55 0		☉'s L L	Westerly
	10 23	5 7 14½	4 4½			☉'s U L	
	23 5	5 20 3	17 58	71 23 0		☉'s L L	
	—	5 23 30¼	20 28½			☉'s U L	
	—	5	42 45	75 25 0		☉'s L L	
	51 49½	5	—			☉'s U L	
	2 5½	22 5 0½	7 55	74 20 0		☉'s U L	Easterly
	5 25¼	22 8 23	11 21			☉'s L L	
☿ —— 21					1 54 13,01		
	42 30	5 39 32	36 34½	74 20 0		☉'s L L	Westerly
	45 51	5 42 55½	39 58½			☉'s U L	
♀ —— 23	—	23 15 14	18 48	65 48 0		☉'s U L	Easterly
	15 44½	23 19 19½	—			☉'s L L	
	21 33	23 25 14	28 59½	64 30 0		☉'s U L	
	25 46¼	23 29 31½	33 19½			☉'s L L	
♄ —— 24					2 0 59 9		
	35 45	4 32 1	28 14	64 30 0		☉'s L L	Westerly
	—	4 36 17	32 34			☉'s U L	
	45 46	4 42 10	—	65 48 0		☉'s L L	
	—	4 46 17½	42 43½			☉'s U L	
	26 40	22 29 44¼	32 49	72 54 0		☉'s U L	Flying Clouds; Easte[rly]
	30 10¼	22 33 15½	—			☉'s L L	
	—	23 1 59	5 31	68 11 0		☉'s U L	
	2 27½	23 5 51	—			☉'s L L	
☉ —— 25					2 3 16,9		
	3 39	5 0 16	—	68 11 0		☉'s L L	Cloudy Weste[rly]
	—	5 4 7	—			☉'s U L	
	—	5 32 49	—	72 54 0		☉'s L L	
	—		33 14½			☉'s U L	
	26 4½	22 29 43½	32 47½	73 30 0		☉'s U L	Easterly
	30 8½	22 33 1½	36 19½			☉'s L L	
	—	22 42 26	—	71 35 0		☉'s U L	
	—	22 46 3½	49 14½			☉'s L L	

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Equal Altitudes. Times by Clock C. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diſtance.	Tranſit over the Meridian.	Phenomena and Remarks.
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
☉ April 25.	52 23	22 55 38¾	58 56	69 40 0		☉'s U. L. Eaſterly.
	56 5	22 59 24½	2 44			☉'s L. L.
☽ —— 26.					2 5 34,44	
	14 36¾	5 11 17¾	7 55¾	69 40 0		☉'s L. L. Weſterly.
	18 19	5 15 3	11 45¾			☉'s U. L.
	——	5 24 37	21 26¼	71 35 0		☉'s L. L.
	——	5 28 15	——			☉'s U. L.
	40 30	5 37 25¼	——	73 30 0		☉'s L. L.
	43 59¾	5 40 55¾	37 50			☉'s U. L.
	Put the Clock 12 minutes forward.					
	54 48	8 58 31½	2 16	68 2 0	11 39 39,6	β Leonis, Eaſt.
	24 30	14 20 48	17 4			Ditto, Weſt.
	21 48¼	9 24 23½	26 57¼	——	13 15 21,64	Spica Virginis, Eaſt.
	8 54½	17 6 20¼	3 45¼			Ditto, Weſt.
	42 53	22 45 58	49 3½	73 27 0		☉'s U. L. Eaſterly.
	46 24¼	22 49 29½	52 35¼			☉'s L. L.
	3 50	23 7 6	10 22	70 20 0		☉'s U. L.
	7 32¼	23 10 50½	14 9¼			☉'s L. L.
♂ —— 27.					2 19 51,8	
	31 43¼	5 28 26	25 7	70 20 0		☉'s L. L. Weſterly.
	35 26	5 32 10	28 53			☉'s U. L.
	52 51¼	5 49 45¼	46 38	73 27 0		☉'s L. L.
	56 21	5 53 17	50 11			☉'s U. L.
☿ —— 28.	——	22 45 48¼	48 55½	74 40 0		☉'s U. L. Eaſterly.
	46 13¼	22 49 20¼	52 26			☉'s L. L.
	58 12	23 1 24	——	72 20 0		☉'s U. L.
	1 49¼	23 5 2¼	——			☉'s L. L.
♃ —— 29.					2 24 29,03	
	46 40	5 43 29	——	72 20 0		☉'s L. L. Weſterly.
	50 17	5 47 6	——			☉'s U. L.
	2 14¼	5 59 8¼	——	74 40 0		☉'s L. L.
	5 43	6 2 4	59 34¼			☉'s U. L.
♀ —— 30.	48 16½	22 51 22	——	75 0 0		☉'s U. L. Eaſterly.
	51 46¼	22 54 53	58 1¼			☉'s L. L.
	1 35	23 4 48	7 59¼	73 0 0		☉'s U. L.
	5 12	23 8 26¼	11 41			☉'s L. L.
♄ May 1.					2 29 6,95	
	52 35	5 49 21¼	46 7	73 0 0		☉'s L. L. Weſterly.
	56 11	5 53 2	49 48¼			☉'s U. L.
	6 0	6 2 53	59 46	75 0 0		☉'s L. L.
	9 29	6 6 25¼	3 19			☉'s U. L.

Obfervations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Equal Altitudes Times by Clock C: Lower Wire	Middle Wire	Upper Wire	Zenith Diftance	Tranfit over the Meridian	Phenomena and Remarks	
	′ ″	H ′	″	H ″ ′	H		
♄ May 1	55 3	22 58 11	1 20	74 33 0		☉ s U L	Eafterly
	58 37	23 1 46½	4 57½			☉ s L L	
	11 21	23 14 36	17 52	72 9 0		☉ s U L	
	15 3½	23 18 21½	21 40¾			☉'s L L	
☉ —— 2					2 31 27,43		
	——	5 44 5	40 47½	72 9 0		☉'s L L	Wefterly
	51 6	5 47 51	44 33¾			☉ s U L	
	3 50	6 0 40	57 28	74 33 0		☉ s L L	
	7 22¾	6 4 16	1 6			☉'s U L	
☽ —— 3	52 2½	8 55 57	59 50	50 40 0	14 16 4,37	α Centauri, Eaft	
	40 6½	19 36 12	32 18¾			Ditto, Weft	
☿ —— 5	9 47½	23 13 0	16 14	74 40 0		☉'s U L	Eafterly
	——	23 16 39½	19 55			☉'s L L	
	28 2½	23 31 44¾	35 8	72 0 0		☉ s U L	
	32 11½	23 35 36½	39 4			☉'s L L	
♃ —— 6					2 40 52,48		
	49 8½	5 45 43¾	42 16½	72 0 0		☉ s L L	Wefterly
	52 58½	5 49 36	46 11½			☉ s U L	
	——	6 4 39½	1 24½	74 40 0		☉'s L L	
	11 31	6 8 19	5 5½			☉'s U L	
	18 15	23 21 31	24 48	74 0 0		☉'s U L	Eafterly
	21 58½	23 25 16½	28 31			☉ s L L	
♀ —— 7					2 43 15,45		
	——	6 0 50½	57 29½	74 0 0		☉'s L L	Wefterly
	——	6	1 17½			☉ s U L	
♄ —— 8	Put the Clock 20 minutes forward						
☽ —— 17	4 52	1 9 7½	13 29	68 32 0		☉'s U L	Eafterly
	9 42¾	1 14 4½	18 36			☉ s L L	
♂ —— 18					3 29 48,33		
	49 31½	5 45 10¾	40 41½	68 32 0		☉'s L I	Wefterly
	54 27½	5 50 7¾	45 48			☉'s U L	
☿ —— 19	10 33	9 53 14	56 57	——	13 1 2,9	Spica Virginis, Eaft	
	11 33½	16 8 52	6 9			Ditto Weft	
	——	1 44 8	——			☉'s U L	Eafterly
	44 52	1	——			☉ s L L	
♃ —— 20					3 34 48,02		
	24 28	5	——			☉ s I L	Wefterly
	——	5 25 9	——			☉ s U L	

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Tranſits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C. First Wire. ′ ″	Second Wire. ′ ″	Middle Wire. H ′ ″	Fourth Wire. ′ ″	Fifth Wire. ′ ″	Phenomena and Remarks.
♂ April 20.	Having fixed up the Tranſit Inſtrument, I levelled the axis, adjuſted the line of collimation, and directed it, by means of the horizontal adjuſting ſcrew, to a very good mark on an iſland to the Northward.					
☿ —— 21.	51 53	52 35—	1 53 18½	54 1½	——	⊙'s Firſt L.
		54 46½	1 55 29½	56 12—	56 54¼	⊙'s Second L.
	Theſe Obſervations being compared with the time of noon deduced from equal altitudes, ſhew that the Inſtrument was 10″,67 in time Weſt of the true meridian.					
♀ —— 23.	Moved the Inſtrument very near the true meridian, where it accidentally cut two very good marks, one about a mile and quarter to the Northward, and the other about 4½ miles to the Southward. By theſe two marks the Inſtrument was generally examined before every Obſervation in the day-time.					
♄ —— 24.	58 28½	59 10¼	1 59 54½	0 37		⊙'s 1ſt L. } By theſe the Inſtrument is 0″,6.
		1 21⅞	2 2 5½	2 48⅞	3 30½	⊙'s 2d L. } Eaſt of the true meridian.
⊙ —— 25.	0 44¾	1 26⅝	2 2 10—	2 55	——	⊙'s 1ſt L. } Theſe make the Inſtrument 1″,15.
			2 4 22—	5 4⅞	5 47¼	⊙'s 2d L. } Eaſt of the true meridian.
☽ —— 26.	3 51¾	3 43⅝	2 4 27⅛	5 10½	——	⊙'s 1ſt L. } Inſtrument 1″,32 Eaſt of the meridian.
		5 56—	2 6 39	7 22—	8 4⅞	⊙'s 2d L. }
		15 21¼	5 16 7+	6 52⅛		☽'s 1ſt Limb.
		32 42½	5 33 24⅛	34 7		α Orionis.
			7 21 49—			Pollux.
	Put the Clock 12 Minutes forward.					
		57 49½	9 58 32—	59 16—		Regulus.
	38 12⅛	38 55½	11	40 21⅞	41 5¼	β Leonis. Inſtrument 0″,54 Eaſt.
	——	14 51⅞	12 16 22—	17 50⅞	——	α Crucis.
	13 57⅞	14 37—	13 15 22⅛	16 5½	16 45⅞	Spica Virginis. Inſtrument 0″,44 Eaſt of Merid.
		29 58+	13 31 12½	32 33½	——	α Eridani: below the Pole.
	5 52+	6 36	14 7 21½	8 6+	8 50⅞	Arcturus.
	——	——	14 26 27½	——	——	α Centauri.
		29 11+	1 30 31	31 51⅞	——	α Eridani: above the Pole.
♂ —— 27.	17 20—	18 1½	2 18 45⅛	19 28½	——	⊙'s 1ſt Limb.
		20 13½	2 20 57½	21 40½	22 23	⊙'s 2d Limb.
			4 24 2½			Aldebaran.
	3 20	4 1+	5 4 44—	5 26	6 7½	Rigel.
	42 32½	43 14—	5 43 56¼	44 38½	45 20½	α Orionis.
	17 47—	18 31⅛	6 19 16+	20 2	20 46½	☽'s 1ſt Limb: very good.
		——	6 36 9			Syrius.
		——	7 20 57½		——	Caſtor.
		27 39+	7 28 22	29 4		Procyon.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Transits of the Sun, Moon, and Stars, over the Meridian. Times by the Clock C — First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena and Remarks
	′ ″	″	H ′ ″	″	′	
♂ April 27	—	31 $32\frac{1}{2}$	7 32 $20\frac{1}{2}$	33 $8\frac{1}{2}$	—	Pollux
	—	—	9 11 $33\frac{1}{2}$	—	—	β Navis above the Pole
	—	—	9 17 17+	—	—	α Hydræ
	55 $39\frac{1}{2}$	56 21+	9 56 $59\frac{1}{2}$	57 48—	58 30—	Regulus
	36 44+	37 27—	11 38 11—	38 $54\frac{1}{2}$	39 $37\frac{1}{2}$	β Leonis
	—	27 $41\frac{1}{2}$	1 29 $2\frac{1}{2}$	30 $22\frac{1}{2}$	—	α Eridani above the Pole
☿ — 28	19 37	20 19+	2 21 3—	21 46+	—	☉'s 1st L.
	—	22 31—	2 23 5	23 $58\frac{1}{2}$	24 $41\frac{1}{2}$	☉'s 2d L.
	9 $30\frac{1}{2}$	10 $14\frac{3}{4}$	7 11 0	11 $45\frac{1}{2}$	12 30	☽'s 1st L.
♃ — 29	21 $55\frac{1}{2}$	22 $37\frac{3}{4}$	2 23 $21\frac{1}{2}$	—	—	☉'s 1st L.
	—	—	2 25 $33\frac{1}{2}$	26 $17\frac{1}{2}$	26 $59\frac{5}{8}$	☉'s 2d L
		16 $47\frac{1}{2}$	6 16 $57\frac{3}{4}$	18 $6\frac{3}{4}$	—	Canopus above the Pole
	31 $44\frac{1}{4}$	32 $31\frac{1}{2}$	6 33 $11\frac{1}{2}$	33 $54\frac{1}{2}$	34 38—	Syrius
	—	17 $14\frac{3}{4}$	7 18 $4\frac{3}{4}$	18 $54\frac{1}{2}$	—	Castor
	—	24 $41\frac{1}{2}$	7 25 24	26 $6\frac{1}{2}$	—	Procyon
	—	—	7 29 23	—	—	Pollux
	1 38—	2 21+	8 3 1	3 51—	4 $35\frac{1}{2}$	☽'s 1st L
	—	6 35	9 8 30+	10 25—	—	β Navis above the Pole
	—	—	9 14 19+	—	—	α Hydræ
	—	—	9 54 $6\frac{1}{2}$	—	—	Regulus
	33 $46\frac{1}{2}$	34 $29\frac{1}{2}$	11 35 13+	35 $56\frac{1}{2}$	36 $39\frac{1}{2}$	β Leonis
	—	10 $25\frac{1}{2}$	12 11 55+	13 $14\frac{3}{4}$	—	α Crucis
	—	15 13—	12 16 28+	17 $42\frac{1}{2}$	—	γ ——
	—	31 16—	12 32 22+	33 42	—	β ——
	—	25 $26\frac{1}{2}$	13 26 $46\frac{1}{2}$	28 $7\frac{1}{2}$	—	α Eridani below the Pole
	—	20 36—	14 22 0	23 24+	—	α Centauri
	—	15 3—	18 16 $11\frac{1}{2}$	17 $21\frac{1}{2}$	—	Canopus below the Pole
♀ — 30	—	—	21 6 $16\frac{1}{2}$	—	—	β Navis below the Pole
	—	—	1 24 $35\frac{1}{2}$	—	—	α Eridani above the Pole
♄ May 1	26 34	27 16+	2 28 0	—	—	☉'s 1st L
	—	—	2 30 $12\frac{1}{2}$	30 $56\frac{1}{2}$	31 $38\frac{1}{4}$	☉'s 2d L
	—	—	6 30 14—	—	—	Syrius
	—	25 38—	7 26 26+	27 14—	—	Pollux
	—	3 $37\frac{1}{2}$	9 5 $34\frac{1}{2}$	7 32	—	β Navis above the Pole
	—	47 $34\frac{1}{2}$	9 48 $17\frac{7}{8}$	49 2—	—	☽'s 1st Limb good.
	—	50 $25\frac{1}{2}$	9 51 9+	51 $52\frac{1}{2}$	—	Regulus
•	30 49	31 $31\frac{1}{2}$	11	32 $59\frac{1}{2}$	33 42	β Leonis.
	—	—	1 23 $6\frac{1}{2}$	—	—	α Eridani above the Pole
☉ — 2	28 $53\frac{1}{2}$	29 $35\frac{1}{2}$	2 30 20	—	—	☉'s 1st L
	—	—	2 32 $32\frac{1}{2}$	33 $15\frac{1}{4}$	33 $58\frac{1}{2}$	☉'s 2d L
	—	35 $49\frac{1}{2}$	5 36 $32\frac{1}{2}$	37 15—	—	α Orionis

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Transits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C. First Wire. ′ ″	Second Wire. ′ ″	Middle Wire. H ′ ″	Fourth Wire. ′ ″	Fifth Wire. ′ ″	Phenomena and Remarks.
☉ May 2.	·	2 10+	9 4 7+	6 3—	——	β Navis: above the Pole.
		9 10	9 9 53—	10 35½	——	α Hydræ.
	48 15½	——	9	50 23½	51 6—	Regulus.
		41 7½	10 41 51	42 33½	——	☽'s 1st Limb: very good.
☽ —— 3.	31 14	31 57—	2 32 41	——	——	☉'s 1st L.
	——	——	2 34 53½	35 37+	36 20	☉'s 2d L.
	——	18 46½	7 19 29½	20 11+	——	Procyon.
	——	——	7 23 28+	——	——	Pollux.
	——	——	9 2 37	——	——	β Navis: above the Pole.
	7 0+	7 41½	9 8 24+	9 6½	9 48¾	α Hydræ.
	46 46	47 28+	9 48 11½	48 55—	49 37+	Regulus.
		——	11 29 18½	——	——	β Leonis.
	——	35 53½	11 36 37+	37 20—	——	☽'s 1st Limb: good.
	18 14—	19 33½	13 20 54+	22 14½	23 22+	α Eridani: below the Pole.
	55 32—	56 15½	14 57 0+	57 45½	58 29—	Arcturus.
	——	14 40—	14 16 4+	17 28+	——	α Centauri. Instrument 0″,25 East.
	——	9 8—	18 10 18	11 28	——	Canopus: below the Pole.
	——	59 58	21 1 53	3 51—	——	β Navis, Ditto.
	——	——	21 6 20	——	——	κ Navis, Ditto.
♂ —— 4.	33 34—	34 17	2 35 1½	——	——	☉'s 1st L.
	——	——	2 37 14½	37 68	38 41	☉'s 2d L.
	——	——	7 18 0+	——	——	Procyon.
	——	21 11—	7 21 59½	22 47—	——	Pollux.
	——	27 46	8 28 58	30 9½	——	ι } Navis: above the Pole.
	——	59 11¾	9 1 9	3 5—	——	β }
	5 31+	6 13—	9 6 56—	7 38—	8 20—	α Hydræ.
	——	46 0—	9 46 43	47 26¾	——	Regulus.
☿ —— 5.	——	36 39—	2 37 23—	——	——	☉'s 1st L.
	——	——	2 39 36—	40 19½	——	☉'s 2d L.
	4 2½	4 44+	9 5 27+	6 9½	6 51½	α Hydræ.
	0 38½	1 20—	13 2 3—	2 46—	3 27+	Spica Virginis.
	——	——	13 17 55	——	——	α Eridani: below the Pole.
	30 27—	31 19+	13 31 53	32 37	33 19½	☽'s 1st Limb: good.
	——	53 17½	13 54 2½	54 47¾	——	Arcturus.
	——	11 43—	14 13 7	14 31+	——	α Centauri: above the Pole.
	25 37½	26 19½	14 27 3½	27 47+	28 30—	α Libræ.
	——	15 51—	1 17 11¾	18 31½	——	α Eridani: above the Pole.
	——	——	2 12 22	——	——	α Centauri: below the Pole.
♃ —— 6.	38 18½	39 0½	2 39 45+	——	——	☉'s 1st L.
	——	——	2 41 58½	42 43+	43 25+	☉'s 2d L.
	29 14—	29 55	5 30 38—	——	32 1½	α Orionis.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Transit of the Sun, Moon, and Stars, over the Meridian. Times by the Clock C — First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena and Remarks.
	′ ″	″	H ″	′	′	
♃ May 6	—	—	6 6 37—	—	—	Canopus above the Pole
	—	14 20+	7 15 3—	15 45	—	Procyon
	—	18 14—	7	19 49½	—	Pollux
	—	—	8 6 25½	—	—	ι } Navis above the Pole
	—	56 13½	8 58 11+	0 7	—	β }
	—	3 15	9	4 40—	—	α Hydræ
	18 25—	19 8+	11 19 51½	20 35—	21 18	β Leonis
	—	59 51+	13 0 34—	1 16½	—	Spica Virginis.
	—	15 6—	13 16 26—	17 47	—	α Eridani below the Pole.
	51 6—	51 49—	13 52 34—	53 18+	54 2½	Arcturus
	31 30½	32 13½	14 32 58½	33 42½	34 21—	☽'s 1st Limb good
	—	8 19½	20 4 40—	6 2—	—	ι } Navis below the Pole
	—	55 29+	20 57 25+	59 22+	—	β }
	—	14 22	1 15 43—	17 2	—	α Eridani above the Pole
♀ — 7	40 40	41 23—	2 42 7	—	—	☉'s 1st L
	—	—	2 44 20½	45 4½	45 48—	☉'s 2d L
	—	—	13 14 57	—	—	α Eridani below the Pole
	49 36—	—	13 51 4½	51 49½	52 33—	Arcturus,
	9 12—	9 58—	15 10 45½	11 33+	12 19½	α Cor Bor
	17 23—	18 4	15 18 46½	19 29—	20 10½	α Serpentis
	36 54½	37 38½	15 38 23½	39 8½	39 52½	☽'s 2d L
	—	12 52½	1 14 13	15 33+	—	α Eridani above the Pole
♄ — 8	—	43 46	2 44 30	—	—	☉'s 1st L
	—	—	2 46 44—	47 27½	—	☉'s 2d L
	—	—	8 23 02	—	—	ι Navis above the Pole
	—	—	12 57 34½	—	—	Spica Virginis
	—	12 8—	13 13 27½	14 49	—	α Eridani below the Pole
	48 6—	48 50—	13 49 34½	50 19½	51 4—	Arcturus.
	21 9½	21 51½	14 22 36—	23 19½	24 2	α Libræ.
	7 42½	8 29—	15 9 16+	10 3½	10 49½	α Cor Bor
	15 53—	—	15 27 17	17 59	18 41+	α Serpentis.
	58 7½	58 53—	15 59 40+	—	1 12½	Antares
	—	41 25½	16 42 11½	42 56	—	☽'s 2d Limb good
	—	—	17 8 28	—	—	α Ophiuchi
	Put the Clock 20 Minutes forward				—	
☉ — 9	5 26—	6 9—	3 6 54	—	—	☉'s 1st L
	—	—	3 9 7—	9 50½	10 34	☉'s 2d L.
	18 6—	—	9 19 30—	20 12—	20 54—	α Hydræ
	—	58 39¼	9 59 17	0 0½	—	Regulus
	14 41½	15 23½	13 16 6½	—	17 31—	Spica Virginis.
	—	—	13 31 58	—	—	α Eridani below the Pole

Obfervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Transits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C. First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	Phenomena and Remarks.
	′ ″	′ ″	H ′ ″	′ ″	′ ″	
☉ May 9.	——	7 21	14 8 6½	8 51—		Arcturus.
	16 13½	26 59½	15 27 47½	28 35—	29 21½	α Cor. Bor.
	34 24+		15 35 48+	36 30½	37 12½	α Serpentis.
			16 18 12			Antares.
	25 33½	26 16—	17 26 59½	27 43—	28 25+	α Ophiuchi.
	3 45½	4 29½	18 5 15+	6 0½	6 45+	☽'s 2d Limb: good.
	——		1 31 14+			α Eridani: above the Pole.
☽ —— 10.	7 50	8 23	3 9 17½			☉'s 1ft Limb.
	——		11 31½	12 16—	12 59½	☉'s 2d Limb.
	——		7 29 7—			Procyon.
	——	32 17½	7 33 6—	33 53+		Pollux.
	——	39 53—	8 40 4½	41 16—		δ Navis: above the Pole.
			9 12 9¾			β Navis: above the Pole.
		17 19¼	9 18 2¼	18 44½		α Hydræ.
	4 36	5 19½	19 6 5½	65 0¼	7 34¼	☽'s 2d Limb: good.
		28 27	1 29 47¼	31 7		α Eridani.
♂ —— 11.			5 43 12¾			α Orionis.
		14 40½	6 25 34¼	26 8¾		Syrius.
	26 14	26 55½	7 27 37¾	28 20	29 1½	Procyon.
		30 48½	7 31 36¾	32 24¼		Pollux.
	54 54¾	55 36¼	9	57 3½	57 45¾	Regulus.
	13 41¾	14 27½	16 15 14¼	16 1½	16 46½	Antares.
	22 36¾	23 18½	17 24 2½	24 44¾	25 27½	α Ophiuchi.
		17 16¼	18 18 25½	19 35½		Canopus: below the Pole.
	37 47	38 28¼	19 39 11½	39 53½	40 35½	α Aquilæ.
	42 14½	42 55¾	19 43 38½	44 20½	45 1¼	β Aquilæ.
	2 13½	2 56¼	20 3 42¼	4 26½	5 10½	☽'s 2d Limb: good.
		6 56¾	20 7 41¼	8 25		About 25′ S. of ☽'s center, and about the 4th Mag.
			20 10 10			Two fmall ✱'s nearly in the fame parallel with the ☽. The firft of thefe is probably α, and the fecond γ Capricorni; I cannot find the third in any Catalogue. W.W.
			20 11 59½			
			20 17 14¾			
		36 37½	20 37 49½	39 0¾		ε, δ, β Navis: below the Pole.
		8 3½	21 9 59½	11 56½		
☿ —— 12.	12 40½	13 23½	3 14 8			☉'s Firft L.
	13 28		16 22½	17 6¾	17 50¼	☉'s Second L.
			6 34 55¼		36 22¼	Syrius.
		25 25½	7 26 8½	26 50¼		Procyon.
			7 30 6¾			Pollux.
		15 9½	8 16 31½	17 52¼		ι Navis: above the Pole.

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Tranſits of the Sun, Moon, and Stars, over the Meridian. Times by the Clock C — First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena and Remarks
	′ ″	′ ″	H ′ ″	′ ″	′ ″	
☿ May 12		35 54	8 37 6	38 17½		δ
			9 9 17¼			β Navis above the Pole
		14 20¼	9 15 3¼	15 45¾		α Hydræ,
		54 6¾	9 54 50¼	55 33¾		Regulus
			17 22 32¾			α Ophiuchi
		15 47	18 16 55¾	18 5		Canopus below the Pole.
		32 44¾	19 33 27¾	34 10½		γ
	36 17¾	36 59¼	19 37 42½	38 24¾	39 6¼	α Aquilæ
		41 26½	19 42 8¾	42 51½		β
		54 23¾	20 55 6¾	56 49¾		ν Aquarii
	56 23	57 6¼	20 57 50¼	58 34	59 17	☽'s 2d Limb good.
			21 8 29			β Navis below the Pole,
			21 39 15½			υ
		51 15	21 51 57½	52 39¾		α Aquarii
♃ — 13	15 5¾	15 48½	3 16 33½			☉'s 1ſt L.
			18 47¾	19 32¾	20 15½	☉'s 2d L.
		39 31	5 40 13¾	40 56		α Orionis
		15 2½	6 16 12¼	17 21¼		Canopus.
			8 15 1½			ι
			8 35 35¾			δ
			8 51 48¾			λ
			9 7 46			β Navis above the Pole
		11 1¾	9 12 14	13 25¾		κ
		36 56¼	9 38 32¾	40 8¾		υ
	51 56	52 37¾	9 53 21½	54 4¼	54 47½	Regulus
			10 31 59¾			ε
			10 33 23¼			ι
♀ — 14		32 55¼	8 34 7¼	35 18		δ
			9 6 18			β Navis above the Pole.
			9 10 45			κ
			9 37 3¾			υ
		51 8¾	9 51 62¾	52 35¾		Regulus
			10 30 30¼			θ
			10 31 53¾			η Navis above the Pole
			10 32 39¾			μ
		43 33¼	10 44 17¾	45 1¾		α Crateris

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Transits of the Sun, Moon, and Stars, over the Meridian. Times by the Clock C. First Wire. ′ ″	Second Wire. ′ ″	Middle Wire. H ′ ″	Fourth Wire. ′ ″	Fifth Wire. ′ ″	Phenomena and Remarks.
♀ May 14.		31 59½	20 33 10	34 21½		δ } Navis: below the Pole*.
			21 9 48¼			κ }
♄ —— 15.		20 46	7 21 28½	22 10½		Procyon.
			8 32 26½			δ Navis: above the Pole.
	8 59¾	9 40¼	9 10 23¼	11 5¾	11 47¼	α Hydrae.
		33 45½	9 35 22½	36 58¼		υ Navis: above the Pole.
			9 50 10¼			Regulus.
☽ —— 17.			13 4 1¼			Spica Virginis.
			13 56 1			Arcturus.
	28 39¾	29 20¾	19 30 4¼	30 46¼	31 28	α Aquilae.
			22 35 13½			Fomalhaut.
		53 41¾	0 54 24¾	55 8½		☽'s 2d L.
			1 19 14:			α Eridani: above the Pole.
♂ —— 18.	27 11	27 54½	3 28 39½	29 24¼		☉'s 1st L.
		30 9¼	3 30 55	31 39½	32 28¼	☉'s 2d L.
		6 13¼	9 5 56	6 38½		α Hydrae.
	44 17¾	44 59¾	9 45 43¼	46 26½	47 8¼	Regulus.
	25 23	26 5¾	11 26 49¾	27 33	28 16¼	β Leonis.
			12 8 4½			γ } Crucis.
		22 36¾	12 28 58	25 19¼		β }
	1 7½	1 49½	13 2 32¼	3 14½	3 56¼	Spica Virginis.
			13 54 31¼			Arcturus.
		12 11¾	14 13 36	14 59½		α Centauri.
		22 2¼	20 24 35½	26 9¼		θ Navis.
	32 6½	32 54	20 33 43¼	34 32½	35 20¼	Fomalhaut.
		16 20¾	1 17 41¼	19 1		α Eridani: below the Pole.
☿ —— 19.	29 39	30 22¼	3 31 8	31 52¼		☉'s 1st L.
		32 38½	3 33 28½	34 8¼	34 51½	☉'s 2d L.
	21 51¾	22 33¾	5	24 1¼	24 44½	Syrius.
			7 15 30¼			Procyon.
		25 16	8 26 28	27 39½		δ } Navis.
			8 58 38½			β }
		3 42¾	9 4 25¼	5 7¾		α Hydrae.
			9 44 13¼			Regulus.
		21 17¾	10 22 51½	24 24		θ Navis.
	23 53¼	24 35¾	11 25 19¾	——	26 46½	β Leonis.
			13 2 2¼			Spica Virginis.
		15 36¼	13 16 55	18 16		α Eridani.

* Mr. Bayley remarks that the Clock appears to have lost 12″ more than its usual rate between the transits of Regulus and δ Navis, which is obvious enough; and it is farther manifest, on examining the Observations, that it happened between the transits of α Crateris and δ Navis: Mr. Bayley farther remarks, that he is certain the Clock was not disturbed by any means whatever, as he was in the Observatory during the whole interval, and no other person but himself all that time.

Obfervations by Mr Bayley, at Queen Charlotte's Sound, Continued.

The Error of the Tranfit Inftrument deduced from Obfervations of Circum-polar Stars

1773	Tranfit above the Pole H ′ ″	Tranfit below the Pole H ′ ″	Interval by the Clock between the Obferva tions. H ′ ″	Clock lofes between the Ob ferva- tions ″	Error of Inftru ment where the * paffed ″	Phenomena and Remarks
April 26	25 30 31,22	13 31 12,69	11 59 18,23	44,56	1,46	α Eridani
—— 29	6 16 57,37	18 16 11,81	11 59 14,44	44,64	0,46	Canopus
May 1	33 5 34,56	21 6 16,50	11 59 18,06	44,07	1,06	β Navis
—— 3	9 2 37	21 1 53,69	11 59 16,69	44,29	0,49	β Navis
—— 4	33 1 8,53	21 1 53,69	11 59 14,84	44,37	0,39	β Navis
—— 5	25 17 11,38	13 17 55	11 59 16,38	44,83	0,60	α Eridani
	14 13 7	26 12 22	11 59 15,0	44,83	0,09	α Centauri
—— 6	8 5 25,5	20 4 40,19	11 59 14,69	44,82	0,25	ι } Navis.
	8 58 10,79	20 57 25,38	11 59 14,59		0,30	β
	25 15 42,38	13 16 26,06	11 59 16,32	44,82	0,57	} α Eridani
—— 7	1 15 42,38	13 14 57,0	11 59 14,62	44,81	0,29	
	25 14 12,94	13 14 57,0	11 59 15,94	44,81	0,38	} α Eridani.
—— 8	1 14 12,94	13 13 28,0	11 59 15,06	44,32	0,32	
—— 9	25 31 24,25	13 31 58,0	11 59 16,25	44,56	0,40	α Eridani
—— 12	33 16 31,25	20 17 14,75	11 59 16,50	44,74	0,62	ι Navis.
	33 37 05 88	20 37 49,44	11 59 16,44	44,74	0,59	δ } Navis
	33 9 17,25	21 9 59,81	11 59 17,44	44,74	1,09	β
	9 9 17,25	21 8 29,0	11 59 11,75	44,74	1,75	β Navis
—— 13	33 7 46 0	21 8 29,0	11 59 17,0	44,55	0,78	β } Navis
	33 38 32,75	21 39 15,50	11 59 17 25	44,55	0,90	υ
—— 18	1 17 40,97	13 16 55,56	11 59 14,59	44,90	0,26	α Eridani

The mean of all the Obfervations of Achernar is 0″,536, of β Navis 0″,587, of ι Navis 0″,453, Canopus gave 0″,46, α Centauri 0″,09, δ Navis 0″,59, and υ Navis 0″,9; and hence the angle under which the inftrument cut the meridian at the zenith will be 6″½, 4″½, 5″¼, 7″, 1″, 8″½, and 8″¾ refpectively; the mean of all which is 6′ of a degree; and fo much the Northern femi circle of the vertical, wherein the inftrument moved was to the Eaftward of the true meridian Mr Bayley remarks that the inftrument was carefully kept to two marks, one about a mile and quarter off to the Northward, and the other to the Southward, at about the diftance of four miles and an half, from which it feldom deviated the breadth of one of the wires.

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Meridian Zenith Diſtances of the Sun, Moon, and Stars, for determining the Latitude.

1773.	Zenith Diſtances. Interior Arch. ° ′ ″	Exterior Arch. G S V	″	Exterior Arch reduced. ° ′ ″	Barom.	Therm. In Tent.	Therm. Out.	Latitude deduced. ° ′ ″	Phenomena.
♃ April 29.	55 50 0	———	—	———					⊙'s L. L.
	55 18 20	58 3 30+	4	55 18 12	30,18	62	54	41 5 46,4	⊙'s U. L.
	31 6 42	33 0 24	0	31 6 48	30,04	52	47	41 5 36,4	Spica Virginis.
	61 26 3	65 2 4—	5	61 26 3	30,04	52	47	41 5 31,2	Arcturus.
♄ May 1.	56 26 23	60 0 26	0	56 26 25½	30,35	67	59	41 5 24,5	⊙'s L. L.
	55 54 27	———	—	———					⊙'s U. L.
	51 3 29	51 1 27+	6	51 3 31½	30,32	57	53		☽'s L. L. 20″ after Tranſit.
⊙ —— 2.	56 44 30	———	—	———					⊙'s L. L.
	56 12 27	59 3 26+	10	56 12 32	30,05	56	54½	41 5 30,2	⊙'s U. L.
♂ —— 4.	57 20 3	———	—	———					⊙'s L. L.
	56 47 53	60 2 11	0	56 47 57½	29,96	71	59½	41 5 45,4	⊙'s U. L.
☿ —— 5.	57 37 22	———	—	———					⊙'s L. L.
	57 5 32	60 3 19—	6	57 5 26	29,70	64	57	41 5 41,8	⊙'s U. L.
	32 45 35	34 3 24+	20	32 45 33	29,92	49	46		☽'s L. L. 20″ after Tranſit.
	61 26 26	64 2 5—	13	61 26 21	29,90	47	45	41 5 55,1	Arcturus.
	49 21 40	52 2 19+	24	49 21 27	29,90	47	45	41 5 38,6	α Aquilæ.
♃ —— 6.	57 54 4	———	—	———					⊙'s L. L.
	57 22 0	61 0 24+	13	57 22 1	30,27	65	54	41 5 40,7	⊙'s U. L.
	56 54 40	60 2 26	0	56 54 27	30,30	49	50	41 5 46,5	β Leonis.
	80 24 44	85 3 5	0	80 24 45	30,31	48	49	41 6 8,5	Achernar below the Pole.
	61 26 16	65 2 4	0	61 26 8½	30,31	48	49	41 5 4,45	Arcturus.
	28 42 33	30 2 16	0	28 42 39½	30,32	49	49		☽'s L. L. 19″ after Tranſit of 1ſt L.
♀ —— 7.	58 10 20	———	—	———					
	57 39 10	61 2 0—	18	57 39 4½	30,31	65	66	41 5 42 3	⊙'s L. L.
♄ —— 8.	58 26 26	———	—	———					⊙'s U. L.
	57 55 15	61 3 4	0	57 55 12	30,06	66	57½	41 5 25,2	⊙'s L. L.
	61 26 17	65 2 4	0	61 26 8½	29,98	55	56	41 5 41,9	⊙'s U. L.
	68 32 27	73 0 15—	8	68 32 42½	29,98	55	56	41 5 34,8	Arcturus.
⊙ —— 9.	58 43 14	———	—	———					α Cor. Borealis.
	58 11 16	62 0 9—	11	58 11 16	30,04	64	58½	41 5 46,0	⊙'s L. L.
									⊙'s U. L.
	56 54 40	60 2 26+	5	56 54 38	30,06	60	56	41 5 49,3	β Leonis.
	20 44 21	22 0 15+	25	20 44 30½	30,06	51½	51½	41 6 2,7	Crucis.
	17 20 45	18 2 0+	5	17 20 42½	30,06	51½	51½	41 6 6,0	β Crucis.
	80 24 48	85 3 3+	10	80 24 45½	30,06	51½	51½	41 6 13,0	Achernar, below the Pole.
	18 46 57	20 0 5—	6	18 47 7	30,06	51½	51½	41 6 10,2	α Centauri.
	23 24 18	24 3 28—	6	23 24 23½	29,95	53	53		☽'s L. L. 20″ before tranſit of her latter L.

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Zenith Diſtances Interior Arch ° ′ ″	Zenith Diſtances Exterior Arch G S V	″	Exterior Arch reduced ° ′ ″	Barom	Therm In Tent	Therm Out	Latitude deduced ° ′ ″	Phenomena
☽ May 10	58 59 23	———		———	29,81	70	58½	41 5 53,4	☉ s L L
	58 27 12	62 1 13—	12	58 27 4½					☉ s U L
	24 18 16	25 3 22—	5	24 18 21⅓	29,90	48	48½		☽ sL L 24 before tranſit of her latter L
♂ —— 11		63 0 24—	11	59 14 7	30,10	48	54	41 5 49,6	☉ s L L
	58 43 5	62 2 17	0	58 43 6					☉'s U L
	26 18 54	28 0 9	0	26 18 57	30,30	45	44		☽'sL L 22 before tranſit of her latter L
☿ —— 12	59 29 33	———		———	30,30	56	53	41 5 40,3	☉'s L L
	58 57 41	62 3 18+	10	58 57 46					☉ s U L
	29 9 13	31 0 13—	10	29 9 18	30,10	45½	45		☽ sL L 24″ before tranſit of her latter L
♃ —— 13	59 44 32				30,18	62	54	41 5 32,0	☉ s L L
	59 12 18	62 0 20—	10	59 12 22⅓					☉'s U L
♀ —— 14	59 59 14	63 3 30	0	59 59 7	30,29	64	54½	41 5 41,6	☉ s L L
	59 27 28	63 1 22—	8	58 27 21					☉ s U L
	17 20 36	18 2 0	0	17 20 37½	30,30	49½	49	41 6 11	β Crucis
	11 12 18	11 3 26	0	11 12 22	30,30	49½	49	41 5 50½	α Centauri
	80 24 45	85 3 3	0	80 24 45⅓	30,30	49½	49	41 6 9	Achernar, below the Pole
	18 9 46	19 1 16	0	18 9 50½	30,30	49½	49	41 6 0	β Centauri
♄ —— 15	60 13 36	64 0 31	0	60 13 37½	30,20	64	58	41 5 44	☉ s L L
	59 41 24	63 2 22	0	59 41 32½					☉'s U L
♂ —— 17	48 4 10	51 1 4—	18	48 4 16	29,48	42½	43		☽ sL L 23″ before tranſit of her latter L

The mean of all theſe Latitudes, Mr Bayley makes 41° 5′ 47¼″ South. If a mean of the 24 Obſervations of the Sun and Stars, to the Northward of the zenith, be taken, and alſo of the nine Obſervations of Stars to the South of the zenith, and then a mean of theſe two means be taken for the Latitude, it will be found 41° 5′ 53″½ South.

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Lunar Observations for the Longitude of the Place.

1773.	Time by the Clock. H ' "	Distance of the ☉'s and ☽'s Limbs. ° ' "	Zenith Distance ☉'s U. L. ° ' "	Altit. of ☽'s U. L. ° '	Barom.	Therm. Inter.	Therm. Out.	Longitude East. ° ' "	Remarks.
♃ April 29.	5 32 20	79 52 30	70 16 50	23 34	30,14	53	50	174 14 0	Hazy.
	35 46	52 50	70 46 50	23 45					
	38 35	53 40	71 11 12	24 15					
		— 4 30		+ 3¼	Errors of the Quadrants.				
♄ May 1.	6 37 22	104 35 30	79 59 40	23 28	30,32	52	54½	173 50 37½	Clear, and the Objects distinct.
	41 24	104 36 34	80 37 35	24 3					
	44 54	104 37 20	81 12 30	24 32	Errors as above.				
		Supplemental Distance ☉ and ☽'s L.	Zenith Distance ☽'s U. L.	Alt. of the ☉'s L. L.					
♄ — 8.	22 58 26,8	30 37 0	75 42 49	7 56	30,01	56	52½		Mean of 5 Obs.
	23 11 30½	30 42 53	77 57 14	9 58¼	30,01	56	52½		Mean of 4.
	23 22 18	30 49 31	79 49 47	11 36¼	30,01	56	52½		Mean of 4.
		— 58		+ 2½	Errors of the Quadrants.				
☉ — 9.	23 30 7,8	44 32 44	70 2 49	12 13⅓	29,95	61	57½		Mean of 5 Obs.
	23 44 22,8	44 39 34	72 35 46	14 18⅓	29,95	61	57½		Ditto of 5.
	23 55 30¾	44 45 46	74 36 28	15 52	29,95	61	57½		Ditto of 4.
	0 4 50	44 50 29	76 14 57	17 9	29,95	57	61½		Ditto of 4.
	0 13 45½	44 56 17½	78 7 0	18 30½	29,95	57	61½		Ditto of 4.
		— 1 00		+ 2¼	Errors of the Quadrants.				
☽ — 10.	0 35 30,8	58 18 27	72 40 4	20 44½	29,82	64	56		Mean of 5 Obs.
	0 47 12	58 24 31	73 47 12	22 0½	29,82	64	56		Ditto of 4.
	0 56 39½	58 30 1½	75 24 2	23 3½	29,82	64	56		Ditto of 4.
	1 4 48	58 34 36	76 51 32	23 54½	29,82	64	56		Ditto of 4.
	1 13 39	58 39 16	78 25 44	24 50	29,82	64	56		Ditto of 4.
		— 1 0		+ 2¼	Errors of the Quadrants.				
		Dist. ☉ and ☽'s nearest Limbs.	Zenith Distance ☽'s U. L.	Altit. ☉'s L. L.					
♂ — 11.	23 35 9	109 30 45	51 35 56	11 58	30,07	54	47	173 58 1½	Very clear.
	37 38	29 42	52 2 41	12 18					
	39 46	29 0	52 25 7	12 37					
	42 11	28 30	52 51 16	12 57					
	44 17	27 22	53 13 43	13 15					
	46 3	26 37	53 32 36	13 31					
		— 4 19½		+ 2' 50"					

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued.

Lunar Obſervations for the Longitude of the Place

1773	Time by the Clock H ′ ″	Diſtance of the ☉ and ☽ s Limbs ° ′ ″	Zenith Diſtance ☽ s U L ° ′ ″	Altit of ☉ s L L ° ′	Barom	Therm Intern	Therm Out	Longitude Eaſt ° ′ ″	Remarks
♂ May 11	23 48 02	109 25 54	53 54 28	13 49					
	50 17	25 30	54 18 53	14 7					
	52 43	23 58	54 45 10	14 28	30,07	54	47	174 2 46½	
	55 20	21 56	55 13 24	14 50					
	57 34	22 15	55 37 26	15 9					
	0 0 11	20 25	56 5 27	15 31					
	0 2 49	109 20 0	56 34 19	15 52					
	5 6	18 58	56 59 40	16 12					
	7 30	18 10	57 25 30	16 32	30,07	54	47	173 53 33	
	10 7	16 42	57 54 21	16 51					
	12 13	14 50	58 16 42	17 10					
	14 30	14 0	58 41 33	17 28					
	0 17 10	109 13 6	59 10 47	17 48					
	19 49	12 22	59 40 0	18 8					
	22 10	10 50	60 5 58	18 27	30,07	54	47	173 38 36	During all theſe Obſervations, the air was clear, and the objects very diſtinct
	24 24	9 52	60 30 20	18 46					
	26 55	8 20	60 57 42	19 5					
	29 20	7 25	61 24 20	19 23					
		— 4 19½		+ 2 50″ Errors of the Quads.					
☿ —— 12	23 32 42	97 8 25	44 7 22	10 58					
	35 21	7 18	32 38	11 21					
	37 57	5 54	57 26	11 43	30,25	54	54½	174 19 10	
	40 45	4 52	45 25 56	12 6					
	43 2	4 0	48 30	12 28	Errors as above				
♀ —— 14	2 28 21	72 50 40	52 21 32	24 22					
	33 27	49 10	53 9 20	24 50					
	37 8	48 40	53 44 36	25 8	30,31	47	48	174 11 30	
	40 0	47 26	54 9 56	25 24					
	42 26	45 36	54 34 28	25 37					
	2 44 55	72 44 50	54 58 30	25 48					
	50 49	42 40	55 57 0	26 18	30,31	47	48	173 51 51	
	54 2	41 34	56 30 35	26 32					
	59 26	40 0	57 25 24	26 55					
		Errors as before							

⁎ The height of the eye, above the ſea, was, at a medium, 85 feet.

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Obſervations of different Sorts for the Longitude of the Place.

1773.	
♃ May 6.	Jupiter's 2d ſatellite immerged at 19 h. 52′ 57″ by the Clock, or at 17 h. 10′ 23″6 apparent time. At the time of this Obſervation, the air was very clear, and the limbs of the planet, as well as its belts, exceedingly diſtinct and well defined; the magnifying power uſed was 150 times.
☿ —— 12.	ϑ Aquarii immerged behind the Moon's bright limb at 19 h. 11′ 16″½, or at 15 h. 54′ 45″ apparent time: the magnifying power uſed was 90 times.
	Emerſion from the dark limb at 20 h. 33′ 58″¼, or 17 h. 16′ 58″½ apparent time. Theſe Obſervations alſo are very good, the air being very clear, and the objects diſtinct and well defined: the ſame magnifying power was uſed as at the imerſion.

Obſervations for the Dip of the Magnetic Needle.

1773.	Face of the Inſtrument. East.	Face of the Inſtrument. Weſt.	After changing the Poles of the Needle. Face of the Inſtrument. Eaſt.	After changing the Poles of the Needle. Face of the Inſtrument. Weſt.
	° ′	° ′	° ′	° ′
	64 35	64 30	64 21	64 36
	65 0	64 45	64 37	64 15
	64 49	64 46	64 32	64 20
	64 52	64 25	64 20	64 27
	64 54	64 35	64 29	64 39
	64 37	65 1	64 50	64 26
	65 3	65 0	64 54	64 49
	64 45	65 0	64 45	64 52
	64 45	64 43	64 19	64 50
	64 30	64 35	64 22	64 28
	64 25	64 36	64 40	64 41
	64 50	64 32	64 47	64 40
	64 53	64 54		
	64 35	64 37		
	65 0	65 0		
	64 47	64 43		

Mr. Bayley had here the ſame troubleſome buſineſs with his dipping needle that we had at the Cape of Good Hope: for he remarks, that after labouring a whole day to balance it, he found himſelf juſt where he began, and that he balanced it, after all, by diſcharging the magnetiſm, and adjuſting the needle to an equilibrium, firſt, in an horizontal poſition, by means of the balls which are on the wires, that have the ſame direction with the needle, and then in a vertical poſition, by means of thoſe which are on the wires at right angles to it. The mean of all the dips, before the poles were changed, is 64° 53′8; the mean of all afterwards 64° 35′: the mean of both is 64° 44′4.

Obfervations by Mr Bayley, at Queen Charlotte's Sound, Continued

Obfervations for the Variation of the Compafs

1773	Zenith Diftance ☉'s U L ° ′ ″	Azimuth of the ☉'s center ° ′	Variation Eaft ° ′
☉ May 2	80 30 32	N 46 30 E	
	79 55 4	46 18	
	79 31 52	45 25	
	79 14 3	45 8	13 24¼
	78 58 37	45 2	
	78 40 31	44 57	
	78 22 5	44 51	
♄ —— 8	80 6 36	N 43 40 E	
	79 37 36	43 25	
	79 18 24	43 15	
	79 3 35	42 50	13 08¼
	78 42 48	42 35	
	78 20 10	42 0	
	78 7 0	41 55	
☿ —— 19	76 0 0	N 34 15 E	
	75 40 38	34 0	13 16
	75 27 15	33 40	
♃ —— 20	75 47 38	N 61 15 W	
	76 6 40	61 20	
	76 37 10	61 26	
	76 51 50	61 47	
	77 10 15	61 54	
	77 29 20	63 0	
	77 43 0	63 25	13 40½
	77 59 40	63 36	
	78 24 18	64 06	
	78 35 20	64 15	
	78 56 20	65 0	
	79 15 25	65 20	
	79 37 15	65 40	
	80 0 0	65 45	

The following Variations were obtained by placing the Compafs in the meridian, and turning its index to the Northern and Southern meridian marks alternately

Variation Eaft ° ′	Variation Eaft ° ′	Variation Eaft ° ′	Variation Eaft ° ′
13 30	13 45	13 40	13 50
13 35	13 46	13 35	13 53
14 0	13 25	13 40	13 47
13 44	13 20	13 17	13 44
13 40	13 42	13 19	13 40
13 30	13 50	13 42	13 20
13 35	13 45	13 27	13 27
13 37	13 30	13 29	13 42
13 47	13 29	13 36	13 29
13 50	13 41	14 08	13 19
13 27	13 37	13 46	13 48
13 19	13 35	13 40	13 50
13 15	13 38	13 35	13 41

The mean of all thefe gives the variation 13° 38′¼ E

By Obfervations of Amplitudes

1773	Amplitude of the ☉'s center ° ′	Variation Eaft ° ′
♀ May 7	N 54 3 E	13 25½
☿ —— 12	52 20	13 18
♃ —— 13	52 0	13 18
♀ —— 14	51 44	13 39
♂ —— 18	50 15	13 25½
☿ —— 19	50 05	13 17
♃ —— 20	49 55	13 09
The mean is		13 21

And the mean of all gives the variation of the Compafs 13° 31 16 Eaft

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Obſervations on the Tides.

1773.	Time by the Clock H ′	Apparent Time. H ′	Height of the Water. F. I.	Remarks.
☽ May 3.	21 15		3 6¼	
	21 20		3 6¼	
	21 30		3 7½	
	21 35		3 7,7	Wind ſtill,
	21 40		3 7,8	and water
	21 45		3 7,8	ſmooth.
	21 50		3 7,8	
	21 55		3 7,8	
	22 0		3 7¾	
	22 10		3 7	
	22 20		3 6¾	
♂ —— 7.	9 30		3 9	
	9 35		3 10	
	9 55		3 10,5	
	10 0		3 10¾	Weather as
	10 10		3 11	above.
	10 20		3 11½	
	10 30		3 11	
	10 40		3 11	
	10 45		3 10	
	10 55		3 9	
	21 50		4 2	
	22 0		4 3	
	22 7		4 3,7	
	22 15		4 4,1	
	22 20		4 4,5	Blowing
	22 25		4 4,5	ſtrong, with
	22 35		4 4,5	ſome ſwell.
	22 45		4 4,5	
	22 50		4 4,0	
	22 55		4 3,7	
	23 5		4 3,0	
	23 15		4 2,0	
☿ —— 5.	22 30		3 11¼	
	22 45		4 0½	
	22 50		4 1	
	23 10		4 1¾	
	23 15		4 2¼	Strong wind,
	23 25		4 3¼	and much
	23 30		4 4	ſwell.
	23 40		4 4	
	23 50		4 4	

1773.	Time by the Clock H ′	Apparent Time. H ′	Height of the Water. F. I.	Remarks.
☿ May 5.	0 0		4 4	
	0 10		4 3	
	0 20		4 2	
	0 30		4 1	
	0 40		3 11	
♃ —— 6.			0 0¼	Low Water.
	10 50		4 1¼	
	11 0		4 2	
	11 10		4 2½	
	11 20		4 3	Calm, and
	11 30		4 3	the Water
	11 35		4 3,2	ſmooth.
	11 40		4 3	
	11 50		4 2¾	
	12 0		4 1½	
	Low Water,		0 1	Below 0.
	23 30		4 2½	
	40		4 3	
	50		4 4	Calm, and
	0 0		4 4	the Water
	10		4 4	ſmooth.
	20		4 4	
	30		4 3¼	
	40		4 2¼	
♀ —— 7.	Low Water,		0 2¼	Below 0.
	11 35		4 5½	
	11 45		4 6½	
	11 50		4 7	
	12 0		4 7¼	Fine weather,
	12 10		4 7½	and the wa-
	12 25		4 7½	ter ſtill.
	12 30		4 7¾	
	12 40		4 7½	
	12 45		4 7	
	12 50		4 6¼	
	13 0		4 5½	
	Low Water.		0 3	Below 0.
	0 5		4 7½	
	0 20		4 8½	
	0 25		4 9	
	0 30		4 9¼	Weather, &c.
	0 40		4 9¼	as above.

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued

Obſervations on the Tides

1773	Time by the Clock H ′	Apparent Time H	Height of the Water F I	Remarks
♀ May 7	0 50		4 9½	
	1 0		4 9	
	1 10		4 8½	
	1 20		4 7½	
♄ —— 8	Low Water		0 4½	Below 0
	12 30		4 9	
	12 40		4 10,4	
	12 50		4 11,2	
	13 10		5 1	Weather,
	13 15		5 1,1	&c as above
	13 25		5 1	
	13 35		4 11,2	
	13 40		4 10,4	
	13 55		4 9	
	Low Water		0 5½	Below 0
	1 0		4 4½	
	1 10		4 6	
	1 20		4 7	Before theſe
	1 30		4 7½	the Clock
	1 40		4 7½	had been put
	1 50		4 7	20 forward
	2 0		4 5½	
	2 10		4 5	
☉ —— 9	Low Water		0 3,4	Below 0
	13 30		4 8¾	
	13 40		4 9½	
	13 50		4 11	
	14 0		4 11½	
	14 5		4 11¾	
	14 15		4 11¾	
	14 25		4 11¼	
	14 30		4 11½	
	14 35		4 10¾	
	14 40		4 9½	
	14 50		4 9	
	Low Water		0 2½	Below 0
	1 50		4 6	
	2 0		4 6½	
	2 10		4 6¾	
	2 20		4 7½	Moderate
	2 30		4 7¾	weather

1773	Time by the Clock H ′	Apparent Time H	Height of the Water F I	Remarks
☉ May 9	2 40		4 7¼	
	2 50		4 7½	
	3 0		4 6½	
	3 5		4 5¾	
☽ —— 10	Low Water		0 0½	Below 0
	Strong wind all night, and ſo high a ſea that I could not come near the Inſtrument			
♂ —— 11	2 30		3 9	
	2 40		3 10	Strong wind,
	3 10		3 11½	and the water
	3 20		4 0	very rough
	3 30		4 0	
	3 40		3 11½	
	3 50		3 10	
	4 0		3 9	
	Weather too bad to obſerve all night, and every day afterwards until the 15th			
♄ —— 15	5 40		2 10	
	5 55		2 10½	
	6 10		2 10¼	
	6 20		2 11	Weather
	6 40		2 11½	fine and
	7 0		2 11½	wind ſtill
	7 20		2 11½	
	7 30		2 11	
	7 40		2 10	
☽ —— 17	7 0		3 2	
	7 10		3 4	Weather
	7 30		3 5½	ſerene and
	7 40		3 5½	quiet
	7 50		3 5½	
	8 0		3 5½	
	8 30		3 4	
	8 50		3 2	
	Low Water		0 0½	
	21 30		3 9½	
	21 42		3 10	
	21 50		3 10½	
	22 0		3 11	

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Obſervations on the Tides.

1773.	Time by the Clock. H ′	Apparent Time. H ′	Height of the Water. F. I.	Remarks.
☽ May 17.	22 10		3 11	Weather calm and ſerene: The Moon above the horizon.
	22 20		3 11	
	22 30		3 10½	
	22 40		3 10	
	22 50		3 9¼	
♂ —— 18.	Low Water.		0 2¼	
	22 20		4 11½	
	22 30		5 0½	
	22 50		5 2½	Weather good: Moon above the horizon.
	23 0		5 3	
	23 10		5 3½	
	23 20		5 3½	
	23 30		5 3	
	23 40		5 2	
	23 50		5 0½	
	0 0		4 11½	
☿ —— 19.	Low Water.		1 4¼	
	22 40		4 8	
	22 50		4 9¼	
	23 0		4 10	Water ſtill: Moon above the horizon.
	23 20		4 11	
	23 30		4 11¾	
	23 50		5 0¼	
	0 0		5 0½	
	0 10		5 0½	
	0 20		5 0¾	

1773.	Time by the Clock. H ′	Apparent Time. H ′	Height of the Water. F. I.	Remarks.
☿ May 19.	0 30		4 11¾	
	0 50		4 11	
	1 0		4 10	
	1 10		4 9¼	
	1 20		4 8	
♃ —— 20.	11 40		4 11½	
	11 50		5 1¾	
	12 0		5 1¾	
	12 10		5 1¾	Weather calm, and water undiſturbed.
	12 20		5 1½	
	12 30		5 1½	
	12 40		5 1	
	12 50		5 0½	
	13 0		5 0	
	Low Water.		0 1½	
	23 50		4 10	
	0 0		4 11	
	0 10		4 11¼	
	0 15		4 11¾	Weather fine and water ſmooth: Moon above the horizon.
	0 20		5 0	
	0 30		5 0	
	0 40		5 0	
	0 45		4 11¾	
	0 50		4 11¼	
	1 10		4 10	
♀ —— 21.	Low Water.		0 11¾	

Mr. Bayley made the preceding obſervations, by means of a glaſs tube of about $\frac{7}{10}$ of an inch internal diameter, with an exceeding ſmall aperture at the bottom to admit the water; by which means, the ſurface of the water in the tube was rendered ſo ſteady, as not to alter $\frac{1}{10}$ of an inch when the ſwell of the ſea was two feet. This tube was laſhed faſt to a ten-feet fir-rod, divided into feet, inches, and quarters. The rod was faſtened to a ſtrong poſt, fixed firm and upright in the water; and he is certain he could diſcern a difference of $\frac{1}{10}$ of an inch in the height of the water. Mr. Bayley has not deduced the apparent times from thoſe by the clock; but it may be readily done from the preceding Obſervations of equal altitudes.

Observations by Mr Bayly, at Queen Charlotte's Sound, Continued

Computations of the Rates which the Clock C and Mr Arnold's Watch, No 1 went at

1773	Time by the Watch when compared	Time by Clock C when compared with the Watch	Clock faster than the Watch	Clock gains on Watch between Comparisons	Interval between the Comparisons	Watch loses on the Clock in 24 Hours	Clock loses on Sydereal Time per Day	Watch loses on Sydereal Time	Watch loses on mean Time each Day
	H ′	H ′ ″	H ′ ″	′ ″	H ′	′ ″	′ ″	″	″
♂ April 20	11 2	2 37 30	15 9 36	2 50	23 25	2 54,35	1 27,0	21,55	24,85
☿ —— 21	10 48	2 0 26	12 26	2 50	24 44	2 44,92	1 29,0	13,92	17 42
♃ —— 22	11 32	2 47 16	15 16	2 50½	23 56	2 50,90	1 29,0	19 90	23 40
♀ —— 23	11 28	2 46 6½	18 6½	2 39½	23 18	2 44,29	1 29,0	13,29	16,9
♄ —— 24	10 46	2 6 46	20 46	2 45½	24 01	2 45,39	1 28,30	13 69	17 19
☉ —— 25	10 47	2 10 31½	23 31½	2 50	24 4	2 49,54	1 28,66	18,20	21 70
☽ —— 26	10 51	2 17 21½	26 21½	2 66½	24 22	2 53,0	1 29,25	22,25	25,75
♂ —— 27	11 13	2 54 18	41 18	2 50	23 43	2 52,0	1 28 58	20,58	24 08
☿ —— 28	10 56	2 40 8	44 8	2 51	23 56	2 51,46	1 28,58	20 0	23 50
♃ —— 29	10 52	2 38 59	46 59	2 49	23 52	2 49,90	1 29,39	18,29	21 79
♀ —— 30	10 44	2 33 48	49 48	2 51	24 6	2 50,30	1 28,22	18 52	22 02
♄ May 1	10 50	2 42 39	52 39	2 48	23 58	2 48,22	1 28,22	16,44	19 94
☉ —— 2	10 48	2 43 27	55 27	2 54	23 55	2 54 60	1 28,79	22 39	25,89
☽ —— 3	10 43	2 41 21	58 21	2 54¼	24 6	2 53 55	1 28,68	22,23	25,73
♂ —— 4	10 49	2 50 15¼	16 1 15¼	2 57	24 1	2 56,60	1 29,0	25,80	29,30
☿ —— 5	10 50	2 54 12¼	4 12¼	2 53	23 49	2 54 30	1 29,77	24 57	27 5,
♃ —— 6	10 39	2 46 5¼	7 5¼	2 53¼	24 5	2 53,15	1 29 74	22 [illegible]9	26,39
♀ —— 7	10 44	2 53 59	9 59	2 54	23 54	2 54,72	1 29,1	24 20	2, 70
♄ —— 8	10 38	2 50 53	12 53	3 3	24 5	3 02 40	1 28,73	31 13	34,65
☉ —— 9	10 43	3 18 56	35 56	3 2½	24 2	3 02 26	1 20 19	31,45	34 95
☽ —— 10	10 45	3 23 58½	38 58½	3 1½	23 55	3 01 60	1 29,19	30,79	34,29
♂ —— 11	10 10	3 22 0	42 0	2 49	23 59	2 49,12	1 29,67	18 79	22 29
☿ —— 12	10 39	3 23 49	44 49	2 54	24 6	2 53 28	1 29,57	22 85	26 35
♃ —— 13	10 45	3 32 43	47 43	2 50½	23 50	2 51,71	1 29,19	20 90	24,40
♀ —— 14	10 45	3 25 33½	50 33½	2 45¾	24 10	2 44,59	1 41,32	25,91	29,41
♄ —— 15	10 45	3 38 19¼	53 19¼	3 01	25 20	2 51,40	1 29,18	20 58	24 08
☉ —— 16	12 05	5 1 20¼	56 20¼	2 52¼	23 15	2 57 97	1 29,18	27,15	30,6
☽ —— 17	11 20	4 19 13	59 13	2 47	23 43	2 48,97	1 29,36	18,33	21,83
♂ —— 18	11 03	4 5 0	17 2 0	2 39	23 30	2 42,48	1 29,90	12,36	15 [illegible]8
☿ —— 19	10 33	3 37 39	4 39	3 04	25 52	2 50 70	1 30,10	20 80	4,30
♃ —— 20	12 25	5 32 43	7 43						

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Obſervations made on Board the Ship, with Hadley's Quadrant.

1773.	Time by No. 1.	Altitude of the ☉'s L. L.	Error of the Quadrant.	Barom.	Thermoms. C.	Thermoms. D.	Watch ſlow of mean Time.	Watch loſes on mean Time.	[illegible]
	H ′ ″	° ′ ″	′ ″				H ′ ″	″	
♄ May 29.	6 32 2⅗	7 14 45	— 1 45	29,7	53	48	13 32 58,3		1 2
☽ —— 31.	6 27 22	6 31 15¼	— 4 49	30,0	61	57	13 34 05,8	33,75	1 1
☿ June 2.	6 31 41⅔	7 5 20¼	— 7 27	30,2	62	52	13 35 03,6	28,90	1 2
☉ —— 6.	6 48 25	9 24 54	—12 22½	30,3	60	52	13 36 54,6	37,0	1 2

Mr. Bayley, by including theſe with the preceding computations of the Watch's rate of going, concludes that its mean rate of loſing, while here, was 25″⅔ a day on mean time. He farther computes that the Watch was 13 h. 28′ 51″,3 too ſlow for mean time on Thurſday, May the 20th, at noon.

He alſo makes his Clock to have loſt at the rate of 1′ 29″,003 a day on ſyderial time; in which computation he rejects its loſs between the 14th and 15th of May. It was ſet up in the ſame manner as at the Cape, and the bob of the pendulum was 84, 2 feet above the ſurface of the ſea at low water. The pendulum, when firſt ſet agoing, vibrated only 1° 50′ on each ſide of 0, but increaſed its arcs of vibration until the 26th of April, when it ſwung 1° 53′ each way, and on May 15th it had increaſed to 1° 54′. Length of the pendulum the ſame as at Greenwich.

Obſervations at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Time by Mr. Kendall's Watch. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diſtance.	Time of apparent Noon by the Watch.	Phenomena and Remarks.
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
☉ May 23.	57 48½	10 1 58	6 14	69 0 0		☉'s U. L. Eaſterly.
	2 54	7 11	11 30			☉'s L. L.
☽ —— 24.					12 16 35,3	
	30 0½	14 25 44:	——	69 0 0		☉'s L. L. Weſterly.
	35 5	30 56	——			☉'s U. L.
♄ —— 29.	8 04	10 12 37¼	17 10½	69 0 0		☉'s U. L. Eaſterly.
	13 35½	18 9½	22 52			☉'s L. L.
☉ —— 30.					12 18 07,95	
	22 27	14 17 48½	13 8½	69 0 0		☉'s L. L. Weſterly.
	27 55½	23 26	18 53			☉'s U. L.

Obfervations at Queen Charlotte's Sound, in New Zealand, Continued

1773	Equal Altitudes Time by Mr Kendall's Watch — Lower Wire	Middle Wire	Upper Wire	Zenith Diftance	Time of apparent Noon by the Clock	Phenomena and Remarks
	"	H		°	H	
☿ June 2	10 52¾ 16 22¼	10 15 23¼ 21 6	20 02 25 55¼	69 20 0		☉'s U L ☉'s L L } Eafterly
♃ — 3	22 6¼ 27 37	14 14 23 06	—— 18 27	69 20 0	12 19 20,71	☉'s L L ☉'s U L } Wefterly

, It appears from the above Obfervations, that Mr Kendall's Watch was gaining now at the rate of 9",05 a day on mean time and by comparing it with Mr Arnold's, (No 3) the latter appears to have loft, while here at the rate of 1 34",158

Obfervations for the Variation of the Compafs

1773	Zenith Diftance of the ☉'s L L	Azimuth of the ☉'s center	Variation Eaft
	°		°
♀ May 21	71 49 0	N 24 45 E	14 14
	71 26 45	24 15	14 02¼
	71 9 30	23 40	14 05
	70 52 15	23 05	14 08
	70 36 45	22 15	14 29
	70 16 15	21 35	14 28
		Mean of all is	14 14 35

Obfervations for the Dip of the Needle

1773	Face of the Inftrument Eaft	Weft	
	° '	° '	
♀ May 21	65 10	65 5	
	65 20	65 15	
	65 0	64 50	
	65 10	65 03¼	Means
	Changed the Poles		
♃ June 3	64 0	64 05	
	64 15	64 30	
	63 55	64 25	
	64 0	64 20	
	64 02	64 20	Means
So End	64 39	Mean of all	

I made the preceding Obfervations on the open beach, at a place which bears S 84° 10 W by compafs, from Mr Bayley's Obfervatory Sound paffed from one place to the other exactly in 18 ; perhaps ⅕th of a fecond may be added, on account of the time loft in letting go the Watch Two guns were fired at each place, and the times noted at the other, between feeing the explofion and hearing the report, none of which differed fenfibly from another Thefe experiments were made on a very calm evening, a little after fun fetting, the Barometer ftanding at 30,32 and the Thermometer at 52°

Obſervations made at Point Venus, in Otaheite.

1773.	Equal Altitudes. Times by Clock B. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Diſtance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.
♃ Aug. 26.	20 13½	6 20 10½	24 6¼	65 20 0		☉'s U. L. } Eaſterly.
	22 37	24 34	26 29½			☉'s L. L.
♀ —— 27.					10 23 33,21	
	24 42½	14 22 44½	21 48¼	65 20 0		☉'s L. L. } Weſterly.
	27 07½	25 09¾	23 13			☉'s U. L.
	50 47½	5 52 42	54 40½	72 20 0		☉'s U. L. } Eaſterly. W. B
	53 7½	55 6¾	57 0¾			☉'s L. L.
♄ —— 28.					10 25 45,41	
	58 35½	14 56 39½	54 44½	72 20 0		☉'s L. L. } Weſterly. W. B.
	0 55½	58 59½	57 5¾			☉'s U. L.
☉ —— 29.	39 17	6 41 15	43 11	62 5 0		☉'s U. L. } Eaſterly. W. B.
	41 42	43 39¾	45 38.			☉'s L. L.
☽ —— 30.					10 30 05 ½	
	18 43	14 ——	——	62 5 0		☉'s L. L. } Weſterly. W. B.
	21 6½	14 19 8¾	17 12:			☉'s U. L.
	4 19½	6 ——	——	70 20 0		☉'s U. L. } Eaſterly.
	——	6 8 34	10 28¼			☉'s L. L.
	13 6½	6 15 01	16 55	68 20 0		☉'s U. L.
	15 27	17 22½	19 16½			☉'s L. L.
	11 20½	7 13 21½	15 21	55 20 0		☉'s U. L.
	13 49	——	——			☉'s L. L.
♂ —— 31.	50 54	13 ——	——	55 20 0	10 32 14,51	☉'s L. L. } Weſterly.
	53 24	13 51 22½	49 22			☉'s U. L.
	49 14½	14 47 19¾	45 25	68 20 0		☉'s L. L.
	——	49 40¾	47 46¼			☉'s U. L.
	——	14 56 6	54 11	70 20 0		☉'s L. L.
	0 22	——	——			☉'s U. L.

Obſervations on Point Venus, in Otaheite, Continued

1773	Comparifons of the two Clocks with each other					
	Clock B			Clock C		
♃ Aug 26	6	38	0	6	37	56
♀ —— 27	11	10	11¾	11	10	0
	14	28	17¼	14	28	0
	5	58	45	5	58	0
♄ —— 28	10	43	53¼	10	43	0
	15	2	0¾	15	1	0
	6	15	27½	6	14	0
☉ —— 29	10	57	86¼	10	56	0
	6	31	10¾	6	29	0
☽ —— 30	10	59	19	10	57	0
	14	22	24¼	14	20	0
	6	31	53	6	29	0
♂ —— 31	10	44	0,	10	41	0
	15	12	8¼	15	9	0

Computations of the going of the two Clocks

1773	Time of apparent Noon by Clock B	Sydereal Time of apparent Noon	Clock faſt or ſlow of Sydereal Time	Clock B loſes on Sydereal Time	Time by B of comparing the Clocks	Time by C of comparing the Clocks	Time paſt Noon by B when compared	B before C at Noon	B gains on C each Day	C loſes on Sydereal Time
	H ′	H ′	′ ′		H ′	H ′ ′	″	′		″
♀ Aug 27	10 23 33 21	10 23 01 5	+0 31 71		11 10 11 75	11 10 00	46 38 54	0 10 38		
♄ —— 28	25 45 41	26 40 9	—0 55 41	1 27 20	10 43 53 25	10 43 00	18 7 84	0 52 72	0 42 34	2 9,54
☽ —— 30	30 05 53	33 58 65	—3 53 32	1 28 91	10 59 19 00	10 57 00	29 13 67	2 18 13	0 42 70	2 11 61
♂ —— 31	32 14 51	37 36 98	—5 22 47	1 29,15	10 44 00 25	10 41 00	11 45 74	2 59 91	0 41 78	2 10,93
			Mean	1 28 42					Mean	2 10,69

The clocks were fixed up, as uſual, by means of the iron block and frame; and ſtood both in one tent The pendulums of the ſame length as at Greenwich; that of B vibrated over an arch of 1° 37½ each way from the perpendicular for the firſt two or three days, and afterwards over an arch of 1° 40 C varied its vibrations from 1° 45 on each ſide to 1° 48, and back again to 1° 45′ The times of equal altitudes were always noted by B, and C compared with it in the ſame manner as the watches were

Obſervations on Point Venus, in Otaheite, Continued.

Computations of the going of Mr. Kendall's Watch.

1773.	Time of apparent Noon by Clock B.	Time by Clock of comparing the Watch.	Time paſt Noon by the Clock.	Clock gains on the Watch.	Time paſt Noon by the Watch.	Time by the Watch when compared.	Time of apparent Noon by the Watch.	Mean Time of apparent Noon.	Watch too flow for mean Time.	Watch gains on mean Time.
	H ′ ″	H ′ ″	′ ″	″	H ′ ″	H ′ ″	H ′ ″	H ′ ″	H ′ ″	″
♀ Aug. 27.	10 23 33,21	10 49 41,25	26 08,04	2,54	0 26 05,50	10 37 0	10 10 54,50	0 1 16,9	13 50 22,40	
♄ —— 28.	25 45,41	11 6 2,75	40 17,34	3,92	0 40 13,42	10 51 0	10 10 46,58	0 0 59,8	13 50 13,22	9,18
☽ —— 30.	30 05,33	10 41 38,50	11 33,17	1,10	0 11 32,07	10 22 0	10 10 27,93	0 0 24,5	13 49 56,57	8,33
♂ —— 31.	32 14,51	11 2 58,75	30 44,24	2,95	0 30 41,29	10 41 0	10 10 18,71	0 0 06,2	13 49 47,49	9,08
									Mean	8,863

Computations of the going of Mr. Arnold's Watch, (No. 1.) W. B.

1773.	Time of the Compariſon by Watch.	Time of the Compariſon by Clock.	Clock before the Watch.	Clock gains on the Watch between Compariſon.	Interval between the Compariſons.	Watch loſes on the Clock each Day.	Clock loſes on Syderial Time.	Watch loſes on Syderial Time.	Watch loſes on mean Time.
	H ′ ″	H ′ ″	H ′ ″	′ ″	′ ″	H ′	′ ″	′ ″	′ ″
♀ Aug. 27.	7 51 0	11 2 6¼	3 11 6¼						
♄ —— 28.	7 23 0	10 37 23	3 14 23	3 16¾	23 32	3 20,7	1 27,20	4 47,90	0 51,40
☉ —— 29.	9 57 0	13 14 56	3 17 56	3 33	26 34	3 12,1	1 28,91	4 41,01	0 44,51
☽ —— 30.	7 26 0	10 46 49½	3 20 49½	2 53½	21 29	3 13,6	1 28,91	4 42,51	0 46,01
♂ —— 31.	9 46 0	13 10 17½	3 24 17½	3 28	26 20	3 9,4	1 29,15	4 38,55	0 42,05
									0 45,993

Obſerved Zenith Diſtances of the Sun and Stars for finding the Latitude.

1773.	Zenith Diſtances. Interior Arch.			Exterior Arch.				Barometer.	Thermometers. In Tent.	Out.	Phenomena and Remarks.
	°	′	″	G.	S.	V.	+″				
☉ Aug. 29.	26	36	22	28	1	17	8	30,20	82½	90	☉'s U. L. on the meridian.
☽ —— 30.	56	2	46	59	3	5	22	30,15	71	70	α Lyræ } on the meridian.
	39	56	25	42	2	14	12	30,15	70½	69	α Pavonis }
♂ —— 31.	26	25	42	28	0	25	10	30,16	84¼	93	☉'s L. L. on the meridian.
	30	13	47	32	1	0	6	30,09	75¼	75½	α Ophiuchi } on the meridian.
	56	3	40	59	3	7	10	30,08	75½	73½	α Lyræ }
	39	56	22	42	2	13	26	30,09	73½	71½	α Pavonis }

Obſervations on Point Venus, in Otaheite, Continued

Obſervations for the Longitude of the Place

1773	Time by the Clock B	Altitude of the ☉'s L L	Zenith Diſtance of the ☽'s U L	Diſtance of the ☉ and ☽'s Limbs	
	H ′ ″	° ′	° ′	° ′ ″	
♀ Aug 27	14 41 14	20 33	47 52	116 12 0	
	14 43 21	20 4	47 23	12 0	
	14 45 45	19 31	46 48¼	12 45	Longitude 210° 45′ ; Full
	14 47 6	19 14	46 31¼	13 0	
	14 48 12	18 59	46 19	13 0	
	14 49 13	18 45	46 04½	13 0	
	Errors of the Quad	+ 1½	—0½	+ 1 0	
	14 54 04	17 36	44 55¼	116 20 30	
	14 56 04	17 11	44 28½	21 10	
	14 57 09	16 57	44 13¼	21 30	Longitude 210° 33′ Full W B
	14 58 38	16 38	43 53	22 5	
	14 59 54	16 18	43 35¼	22 20	
	15 01 03	16 04	43 20	22 45	
	Errors of the Quad	+ 1½	—0½	—3 42	

⁎ The Moon's zenith diſtance was obſerved with the Aſtronomical Quadrant; the Sun's altitude with an Hadley's Sextant. Height of the eye above the ſea 13 or 14 feet.

1773	
☉ Aug 29	At 18 h 41′ 05″ by the Clock, or 8 h 16′ 46″,1 apparent time, the ſmall ſtar which precedes β Capricorni diſappeared; the brightneſs of the Moon rendered the Star ſo faint that I was not abſolutely certain it then immerged behind the Moon's Limb. At 18 h 50′ 50″, or 8 h 26′ 30″,2 apparent time β Capricorni immerged behind the Moon's dark Limb; an exceeding good Obſervation. At 20 h 25′ 32″, or 10 h 1′ 3″,4 apparent time, β Capricorni emerged; very good alſo. W B

Observations on Point Venus, in Otaheite, Continued.

Observations for the Variation of the Compass.

1773.	Zenith Distance ☉'s U. L. ° ′	Azimuth of the ☉'s center. ° ′	Variation East. ° ′
♄ Aug. 28.	78 43¾	N. 71 0 E.	
	78 22¼	70 50	
	77 50	70 35	5 28⅗
	77 32¾	70 10	
	77 15½	70 05	
☉ —— 29.	71 41	N. 67 40 E.	
	71 0	67 25	
	70 12	66 35	6 09¼
	69 33½	68 0	
	69 01½	66 15	
	68 28½	66 20	
☽ —— 30.	74 18 L. L.	N. 69 55 E.	
	73 45¾	69 35	
	73 17½	69 05	5 42⅔
	72 47	68 50	
	72 27¾	69 0	
	Altitude ☉'s L. L.		
♂ —— 31.	4 57	N. 84 30 W.	
	4 43	84 10	
	4 21	84 50	5 4$\frac{1}{12}$
	3 53	84 47	
	3 23	85 0	
	Zenith Distance ☉'s L. L.		
	78 58½	N. 71 50 E.	
	78 27½	71 25	5 44$\frac{11}{12}$
	78 0½	71 40	
	77 33¼	N. 71 25 E.	
	77 14¾	71 5	5 48⅓
	76 [illegible]¼	70 50	
		The mean is	5 39⅓

Observations for the Dip of the Needle, made by Mr. Bayley.

1773.	Face of the Instrument. East. ° ′	West. ° ′	
♂ Aug. 31.	28 30	29 15	
	28 27	28 45	
	28 14	28 47	
	28 20	29 0	
	28 37	28 50	
	28 15	28 37	
	28 35	29 0	
	29 05	29 35	
	29 02	28 52	
	28 45	29 0	
	28 50	29 0	
	29 0	29 27	
	28 38½	29 0⅔	Means.
	Changed the Poles.		
	30 15	29 50	
	30 21	30 21	
	30 02	30 48	
	31 0	30 29	
	30 56	30 56	
	30 50	31 0	
	31 0	31 10	
	30 50	30 56	
	30 0	30 30	
	31 0	30 15	
	30 15	30 25	
	31 0	30 30	
	30 37$\frac{1}{12}$	30 35⅜	Means.
	28 38½	29 0⅔	Means bef. changing the poles.
	29 38″	29 48¼	Means of both.
	29 43½		Dip of the Needle's S. End.

Observations on Point Venus, in Otaheite, Continued

Observations on the Tides, by Mr Bayley

1773	Times by Clock B H ′	Apparent Time H ′	Height of the Water F I	Remarks
♄ Aug 28	8 29		3 3½	
	8 37		3 4¼	
	8 40		3 4¾	
	9 07		3 4¾	High Water in the Morn
	9 18		3 4½	
	9 57		3 3¾	
	10 06		3 3½	
	10 27		3 3¼	
☉ —— 29	15 32		2 3¼	
	15 35		2 3½	
	15 46		2 3	
	15 48		2 3¼	
	16 10		2 2¾	Low Water in the Even
	16 12		2 2¼	
	16 24		2 2½	
	16 30		2 2¾	
	16 35		2 3	
	4 30		2 5	
	5 05		2 4	Low Water in the Morn
	5 18		2 4½	
	5 27		2 5	
	10 5		3 5½	
	10 9		3 6¼	
	10 18		3 6½	High Water
	10 22		3 6	
☽ —— 30	10 33		3 6¼	
	10 36		3 5½	
	10 45		3 5	
	10 49		3 5½	
	11 0		3 5	
	4 40		2 3¾	
	4 50		2 3½	
	5 0		2 3½	Low Water in the Morn
	5 10		2 3½	
	5 25		2 4¼	
	5 39		2 4½	
	9 44		3 5½	
	9 50		3 6¼	
	9 56		3 5	
	0 08		3 6¼	
	10 20		3 6½	High Water
♂ —— 31	10 40		3 6¾	

1773	Times by Clock B H ′	Apparent Time H ′	Height of the Water F I	Remarks
♂ Aug 31	11 0		3 6	
	11 30		3 5½	
	11 40		3 5¼	
	11 50		3 4¼	
	16 12		2 5	
	16 22		2 5¾	
	16 32		5½	
	16 45		5¾	
	16 49		5¼	Low Water in the Evening
	17 0		4¾	
	17 18		5	
	17 9		[illegible]	
	17 35		5	

The following Observations taken by myself may contribute towards determining the times of high water

1773	Times by Clock B H ′ ″	Apparent Time H ′	Height of the Water F I	Number of Observations with Remarks
♄ Aug 28			5 5	L W mean of
	6 48 0		4 9½	Mean of Obs
	7 17 0		4 8	Ditto of 5 ditto
	7 56 0		4 6	Ditto of 5 ditto
	9 0 48		4 4½	H W mean of 8
	10 2 30		4 6	Mean of 4 Obs
☉ —— 29	10 57 10		4 8	Ditto of 6 ditto
	11 31 6		4 9½	Ditto of 10 ditto
			5 7½	L W mean of 8
			5 6	Ditto, ditto of 5
	6 51 30		4 11	Mean of 6 Obs
	7 30 50		4 9	Ditto of 6 ditto
	8 11 0		4 6½	Ditto of 6 ditto
	10 21 49		4 2½	H W mean of 6
☽ —— 30	12 21 0		4 6	Mean of 6 Obs
	13 10 48		1 9	Ditto of 15 ditto
	14 7 45		4 11	Ditto of 8 ditto
			5 5	L W mean of 8

The above Observations of Mr Bayley [illegible] were made in the same manner [illegible] I took were made in the same manner [illegible] at Queen Charlotte's Sound [illegible] at Dusky Bay in New Zealand [illegible] I should have continued these Observations longer if the Natives had not taken away my tube

Observations at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Times by Clock B. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Distance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.
♀ Nov. 5.	24 39	10 27 01½	29 21½	60 0 0		☉'s U. L. Easterly.
	27 36¼	29 56½	32 15¾			☉'s L. L.
♄ —— 6.					14 44 46,06	
	2 16¼	18 59 56¼	57 36½	60 0 0		☉'s L. L. Westerly.
		19 2 52	0 33½			☉'s U. L.
☽ —— 8.	55 29¼	9 57 47½	0 08½	67 0 0		☉'s U. L. Easterly.
	58 05	10 0 45	3 04¼			☉'s L. L.
	55 56	10 58 16¼	0 37	55 40 0		☉'s U. L.
	58 51½	11 1 12½	3 34			☉'s L. L.
♂ —— 9.					14 55 46$\frac{1}{0}$	
	52 58½	18 50 37½	48 18¼	56 40 0		☉'s L. L. Westerly.
	55 56:	53 34¾	51 14½			☉'s U. L.
	53 30:	19 51 10½	48 52	67 0 0		☉'s L. L.
	56 26	54 6	51 47½			☉'s U. L.
	6 9	12 8 39½		43 20 0		☉'s U. L. Easterly.
	9 16:	11 45	14 12			☉'s L. L.
☿ —— 10.					14 59 28,63	
	49 55:	17 47 26	45 01	43 20 0		☉'s L. L. Westerly.
	53 04½	50 34				☉'s U. L.
♃ —— 11.	14 31¼	10 16 52½	19 12	65 0 0		☉'s U. L. Easterly.
	17 37¾	19 48	22 6¼			☉'s L. L.
	9 39¼	11	14 21	54 40 0		☉'s U. L.
	12 30:	11 14 56½	17 17			☉'s L. L.
♀ —— 12.					15 6 54,51	
	1 30½	18	56 49	54 40 0		☉'s L. L. Westerly.
	4 28	19 2 7	59 47			☉'s U. L.
	56 40½	19 54 21	52 02	65 0 0		☉'s L. L.
	59 37	19 57 19	54 58			☉'s U. L.
	12 7	10 14 26	16 44½	66 0 0		☉'s U. L. Easterly.
	15 1	17 21	19 39			☉'s L. L.
	56 29	10 58 48½	1 7	57 40 0		☉'s U. L.
	59 23½	11 1 42½	4 3			☉'s L. L.
♄ —— 13.					15 10 38,71	
	22 12½	19		57 40 0		☉'s L. L. Westerly.
	25 5	19 22 45	20 27½			☉'s U. L.
	6 39	20 4 19	2 1	66 0 0		☉'s L. L.
	9 35	7 13½	4 55½			☉'s U. L.
	22 2¼	10 24 23¼		64 40 0		☉'s U. L. Easterly.
	24 58¼	27 18½	29 37			☉'s L. L.
	39 49½	10 42 9	44 28	61 20 0		☉'s U. L.
	42 45	45 5	47 24			☉'s L. L.
☉ —— 14.					15 14 22,33	

Obſervations on Point Venus, in Otaheite, Continued

Obſervations on the Tides, by Mr Bayley

1773	Times by Clock B H		Appa rent Time H	"	Height of the Water F	I	Remarks
♄ Aug 28	8	29			3	3½	
	8	37			3	4¼	
	8	40			3	4¾	
	9	07			3	4¾	High Water
	9	18			3	4½	in the Morn
	9	57			3	3¾	
	10	06			3	3¾	
	10	27			3	3¼	
☉ —— 29	15	32			2	3¼	
	15	35			2	3¾	
	15	46			2	3	
	15	48			2	3¼	
	16	10			2	2¾	Low Water
	16	12			2	2¼	in the Even
	16	24			2	2½	
	16	30			2	2¾	
	16	35			2	3	
	4	30			2	5	
	5	05			2	4	Low Water
	5	18			2	4½	in the Morn
	5	27			2	5	
	10	5			3	5½	
	10	9			3	6¼	
	10	18			3	6½	High Water
	10	22			3	6	
☽ —— 30	10	33			3	6¼	
	10	36			3	5½	
	10	45			3	5	
	10	49			3	5½	
	11	0			3	5	
	4	40			2	3¾	
	4	50			2	3½	
	5	0			2	3½	Low Water
	5	10			2	3½	in the Morn
	5	25			2	4¼	
	5	39			2	4½	
	9	44			3	5½	
	9	50			3	6¼	
	9	56			3	5	
	10	08			3	6¼	
	10	20			3	6½	High Water
♂ —— 31	10	40			3	6¾	

1773	Times by Clock B H		Appa rent Time H	Height of the Water F	I	Remarks.
♂ Aug 31	11	0		3	6½	
	11	30		3	5½	
	11	40		3	5¼	
	11	50		3	4¾	
	16	12		2	5½	
	16	22		2	5¾	
	16	32		2	5½	
	16	45		2	5¾	
	16	49		2	5¼	Low Water in the
	17	0		2	4⅞	Evening
	17	16		2	5	
	17	9		2	5	
	17	35		2	5½	

The following Obſervations, taken by myſelf, may contribute towards aſcertaining the times of high water

1773	Times by Clock B H			Appa rent Time H ′	Height of the Water F	I	Number of Obſervations with Remarks
♄ Aug 28					5	5	L W mean of 7
	6	48	0		4	9¼	Mean of 7 Obſ
	7	17	0		4	8	Ditto of 5 ditto
	7	56	0		4	6	Ditto of 5 ditto
	9	0	48		4	4¼	H W mean of 8
	10	2	30		4	6	Mean of 4 Obſ
☉ —— 29	10	57	10		4	8	Ditto of 6 ditto
	11	34	6		4	9¼	Ditto of 10 ditto
					5	7⅛	L W mean of 8
					5	6 1/10	Ditto, ditto of 5
	6	51	30		4	11⅖	Mean of 6 Obſ
	7	30	50		4	9	Ditto of 6 ditto
	8	11	0		4	6⅖	Ditto of 6 ditto
	10	21	49		4	2¼	H W mean of 6
☽ —— 30	12	21	0		4	6	Mean of 6 Obſ
	13	10	48		4	9	Ditto of 15 ditto
	14	7	45		4	11⅓	Ditto of 8 ditto
					5	5 1/10	L W mean of 8

The above Obſervations of Mr Bayley's, were made in the ſame manner and by the ſame mea thoſ t Queen Charlotte s Sound; and th ſe which I took, were made l th ſ m ma er as thoſe at Duſky Bay in New Zealand; I ſhould have continued theſe Obſervations longer if the Natives had not taken way my l be

Obfervations at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Times by Clock B. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Diftance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.
♀ Nov. 5	24 39	10 27 01½	29 21½	60 0 0		☉'s U. L. Eafterly.
	27 36¼	29 56¼	32 15¼			☉'s L. L.
♄ —— 6.					14 44 46,06	
	2 16¾	18 59 56¼	57 36½	60 0 0		☉'s L. L. Wefterly.
		19 2 52	0 33½			☉'s U. L.
☽ —— 8.	55 29¾	9 57 47½	0 08¼	67 0 0		☉'s U. L. Eafterly.
	58 05	10 0 45	3 04¾			☉'s L. L.
	55 56	10 58 16¾	0 37	55 40 0		☉'s U. L.
	58 51½	11 1 12¼	3 34			☉'s L. L.
♂ —— 9.					14 55 46⅔	
	52 58¾	18 50 37½	48 18¼	55 40 0		☉'s L. L. Wefterly.
	55 56:	53 34¾	51 14½			☉'s U. L.
	53 30:	19 51 10½	48 52	67 0 0		☉'s L. L.
	56 26	54 6	51 47½			☉'s U. L.
	6 9	12 8 39½		43 20 0		☉'s U. L. Eafterly.
	9 16:	11 45	14 12			☉'s L. L.
☿ —— 10.					14 59 28,63	
	49 55:	17 47 26	45 01	43 20 0		☉'s L. L. Wefterly.
	53 04½	50 34				☉'s U. L.
♃ —— 11.	14 31¼	10 16 52½	19 12	65 0 0		☉'s U. L. Eafterly.
	17 37¾	19 48	22 6¼			☉'s L. L.
	9 39¾	11	14 21	54 40 0		☉'s U. L.
	12 30:	11 14 56½	17 17			☉'s L. L.
♀ —— 12.					15 6 54,51	
	1 30½	18	56 49	54 40 0		☉'s L. L. Wefterly.
	4 28	19 2 7	59 47			☉'s U. L.
	56 40½	19 54 21	52 02	65 0 0		☉'s L. L.
	59 37	19 57 19	54 58			☉'s U. L.
	12 7	10 14 26	16 44½	66 0 0		☉'s U. L. Eafterly.
	15 1	17 21	19 39			☉'s L. L.
	56 29	10 58 48½	1 7	57 40 0		☉'s U. L.
	59 23½	11 1 42½	4 3			☉'s L. L.
♄ —— 13.					15 10 38,71	
	22 12½	19		57 40 0		☉'s L. L. Wefterly.
	25 5	19 22 45	20 27½			☉'s U. L.
	6 39	20 4 19	2 1	66 0 0		☉'s L. L.
	9 35	7 13½	4 55½			☉'s U. L.
	22 2¼	10 24 23¼		64 40 0		☉'s U. L. Eafterly.
	24 58¼	27 18½	29 37			☉'s L. L.
	39 49½	10 42 9	44 28	61 20 0		☉'s U. L.
	42 45	45 5	47 24			☉'s L. L.
☉ —— 14.					15 14 22,33	

Obſervations at Queen Charlotte's Sound, in New Zealand, Continued

1773	Equal Altitudes Times by Clock B: Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks	
	″	H		″	H ′		
☉ Nov 14.		19 43 58	41 40½	61 20 0		☉ s L L	Weſterly
	49 14½	46 53	44 36½			☉ s U L	
	4 7	20 1 45½	59 28	64 40 0		☉ s L L	
	7 1¾	4 43	2 24			☉ s U L	
	7 9	10 9 29½	11 49½	68 0 0		☉ s U L	Eaſterly
	10 6½	12 26	14 45½			☉ s L L	
	23 14	10 25 32½	27 50½	65 0 0		☉'s U L	
		28 27½	30 47½			☉ s L L	
☽ —— 15					15 18 08¾		
	10 29½	20 08 09½		65 0 0		☉'s L L	Weſterly
	13 25	11 5	8 46½			☉ s U L	
	26 32½	20 24 13		68 0 0		☉ s L L	
	29 30	27 9	24 49			☉ s U L	
	47 27	10 49 48½		61 0 0		☉ s U L	Eaſterly
	50 24	52 44	55 2½			☉ s L L	
♂ —— 16					15 21 54½		
	53 42	19 51 24	49 5	61 0 0		☉ s L L	Weſterly
	56 39	54 18½	52 0½			☉ s U L	
☿ —— 17	57 02	10 59 23	1 41½	60 20 0		☉ s U L	Eaſterly.
	59 58	11 2 18	4 37½			☉'s L L	
♃ —— 18					15 29 31,52		
	59 20½	19 57 01½	54 41	60 20 0		☉'s L L	Weſterly
	2 13	59 57½	57 39			☉'s U L	
♀ —— 19		13 10 47		37 20 30		☉ s U L	Eaſterly
	11 24		16 27½			☉ s L L	
♄ —— 20					15 37 10,47		
	3 9	18		37 20 30		☉ s L L	Weſterly
		18 3 43½				☉'s U L	
☉ —— 21	38 53	12 41 15½	43 39	43 40 0		☉'s U L	Eaſterly
	41 52	44 16	46 40½			☉ s L L	
☽ —— 22					15 44 51,38		
	48 01	18 45 37	43 12½	43 40 0		☉'s L L	Weſterly
	51 01	48 38	46 14½			☉ s U L	

Obſervations at Queen Charlotte's Sound, in New Zealand, Continued.

Obſerved Zenith Diſtances of the Sun and fixed Stars.

1773.	Zenith Diſtances. Interior Arch. °	′	″	Exterior Arch. °	′	″	+ ″	Barom.	Thermom. In Tent.	Out.	
♂ Nov. 9.	10	16	50	10	3	27	23	30,07	50	47	Fomalhaut on the Meridian.
	55	4	25	58	3	0	7				α Pegaſi, Ditto.
☉ —— 14.	22	32	25	24	0	5	20	30,33	72¼	70	☉'s U. L. Ditto.
☽ —— 15.	22	49	32	24	1	13	3	30,17	71	67	☉'s L. L. Ditto.
	22	16	59	23	3	3	0				☉'s U. L. Ditto.
	17	17	18	18	1	25	0	30,12	51½	50	Achernar, Ditto.
♂ —— 16.	68	53	56	73	1	31	15	30,0	57	54¼	α Andromeda, Ditto.
	17	16	50	18	1	24	23	29,99	54¼	55	Achernar, Ditto.
☿ —— 17.	21	46	37	23	0	29	20	29,99	71	76	☉'s U. L. Ditto.
	22	19	15	23	3	8	0				☉'s L. L. Ditto.
♃ —— 18.	22	5	7	23	2	8	0	29,70	71¼	73¾	☉'s L. L. Ditto. Cloudy.
♄ —— 20.	68	53	55	73	1	31	20	29,64	50¼	47¼	α Andromeda, Ditto.
	17	17	33	18	1	26	13	29,65	48½	46½	Achernar, Ditto.

The following Obſervations, for finding the Error of the Line of Collimation of the Quadrant, were made in the ſame manner, and by the ſame means, as thoſe at Point Venus, in Otaheite: The poſition of the Quadrant was changed after every ſix Obſervations.

	Zenith Diſtance of the upper hole: the Quadrant direct. Interior Arch. °	′	″	Exterior Arch. G.	S.	V.	+ ″	Zenith Diſtance of the lower hole: the Quadrant inverted. Interior Arch. °	′	″	Exterior Arch. G	S.	V.	+ ″	
	89	46	15	95	3	1	7	90	14	10	96	1	1	0	
			20				7			0			0	19	
			22				10			0			0	20	
			18				7			15			1	7	
			20				6			15			1	9	
			22				13			5			1	5	
	89	46	27	95	3	1	20	90	13	55	96	1	1	0	
			27				20		14	0			1	0	
			25				13		13	55			0	22	
			27				18		13	52			0	15	
			21				9		13	52			0	20	
			21				13		14	0			0	22	
Mean of the upper - - -	89	46	22,1	95	3	1	12	90	14	01,6	96	1	0	24,8	Means.
Ditto of the lower - - -	90	14	01,6	96	1	0	24,8								
Exceſs above 180°. - - -			23,7			2	10,4								
Error of the Line of Collimation.	—		11,85	—		1	5,2	To be ſubtracted.							

Obſervations at Queen Charlotte's Sound, in New Zealand, Continued

Computations of the Latitude of the Place, from the preceding Obſervations

1773	Latitude Interior Arch °	Latitude Exterior Arch °	Declination ° ″
	By Obſervations of the Sun		
☉ Nov 14	41 5 55¼	41 5 42	18 17 04½ N
☽ —— 15	41 6 0	41 5 57	18 32 33
☿ —— 17	41 5 37	41 5 29¼	19 2 30½
♃ —— 18	41 6 1½	41 5 58	19 16 59
	41 5 53½	41 5 46½	Means
	By Obſervations of α Andromedæ		
♂ Nov 16	41 5 30½	41 5 25¼	27 50 39 N
♄ —— 20	41 5 31¾	41 5 32½	
	41 5 31	41 5 29	Means

1773	Latitude Interior Arch °	Latitude Exterior Arch ″	Declination °
	By an Obſervation of Fomalhaut		
♂ Nov 9	41 5 42¾	41 5 27½	30 48 53½ N
	By an Obſervation of α Pegaſi		
	41 5 48½	41 5 51½	
The preceding Stars all paſſed N of the Zenith			
The following of Achernar, were S of the Zenith			
☽ Nov 15	41 6 25	41 6 30	
	41 6 53	41 6 33¾	
	41 6 9½	41 5 50½	
	41 6 29	41 6 18	Mean by Achernar
	41 5 44	41 5 38½	Mean of N Stars
	41 6 6½	41 5 58	Mean of both
And	41 6 2½ is the Latitude South		

Obſervations for the Longitude of the Place

1773	Time by the Clock. H	Apparent Time H	Zenith Diſtance ☽'s U L ° ′	Diſtance ☉ and ☽'s near eſt Limbs °	Longitude Eaſt ° ″	Remarks, &c.
♄ Nov 6	9 27 28	18 44 33,4	58 24	99 28	174 2 51	Obſerved with a Quadrant of Mr Dollond's making, and 1 16″ muſt be ſubtracted from the diſtance for its error
	29 36		32	28		
	31 8		37	27		
	33 13		44¼	27		
	35 5		51¾	26¼		
	36 33		56¾	25½		
	9 42 22	18 58 32	59 19¼	99 22	174 54 45	Obſerved with a Quadrant of Mr Ramſden's making, and a 00 muſt be added to the diſtance for its error
	43 43		24¾	22		
	45 19		31	21¾		
	47 0		38	21		
	48 48		44¾	20¼		
	50 16		53½	19½		

Obfervations at Queen Charlotte's Sound, in New Zealand, Continued.

Obfervations for the Longitude of the Place.

1773.	Time by the Clock. H ′ ″	Apparent Time. H ′ ″	Zenith Diftance ☽'s U. L. ° ′	Diftance ☉ and ☽'s neareft Limbs. ° ′	Longitude Eaft. ° ′ ″	Remarks, &c.
☽ Nov. 8.	10 12 30	19 22 52	50 21½	75 33¼	174 20 45	Diftance obferved by Mr. Ramfden's Quadrant: Error 2′ 05″; to be added.
	14 49		22½	32¼		
	16 23		23	33		
	19 52		25	31¼		
	21 13		26	31		
	22 47		27½	30½		
	10 40 59½	19 49 14	50 53	75 27	173 55 37½	The diftances were obferved with Mr. Dollond's Quadrant, and 1′ 17″ muft be fubtracted for its error.
	42 20		55¼	26¼		
	44 04		58¼	26		
	45 09		51 01	25¼		
	46 16		04	25¼		
	47 24		06½	24¾		
♃ —— 18.	18 43 49	3 17 17,8	24 15	51 4	174 41 0	Diftances with Dollond's Quadrant, and 1′ 9″ muft be fubtracted for its error.
	45 32		11½	4¼		
	47 04		7	5		
	48 11		5¼	5¾		
	49 11		2¼	6		
	50 18		1	6¼		
	18 53 53	3 28 19	23 55	51 05½	174 25 7	The diftance was obferved with Ramfden's Quadrant, and 2′ 30″ muft be added for its error.
	56 46		51	06¼		
	58 02½		49	6¾		
	59 19		47¾	7		
	19 0 34		46½	7½		
	01 48		46	7¼		
♄ —— 20.	18 20 49	2 48 8,4	45 7¼	77 4¾	174 36 12	Diftance by Dollond's Quadrant, and its error was 1′ 00″, to be fubtracted.
	23 12		44 44¼	6		
	25 09		44 25	6¼		
	26 40		44 12¼	7		
	28 15		43 57¼	7¾		
	30 29		43 35¼	8¼		
	18 55 45	3 21 57,4	39 45	77 14¼	174 18 21	Diftance by Ramfden's Quadrant; and its error was 2′ 14″, to be added.
	57 16		39 30½	15		
	58 50		39 18¾	15¼		
	19 0 16		39 05⅓	16		
	2 16		38 48¾	16¼		
	3 38		38 37¼	17½		

Obſervations at Queen Charlotte's Sound, in New Zealand, Continued

Obſervations on the Tides

1773	Time by the Clock	Apparent Time	Height of the Water	Remarks
	H ′	H	F I	
☽ Nov 15	15 01		3 8	
	15 16		3 11	
♂ — 16			8 6¼	Low Water
	12 30		3 10	
	12 49		3 7	
	13 14		3 1	
	14 11⅓	22 46,1	2 8	High Water
	15 7		3 1	
☿ — 17	15 35		3 7	
	15 55		3 10	
			8 6	Low Water
			8 1¼	Ditto.
	14 02		3 0	
	14 58½	23 29,0	2 6⅓	High Water
♃ — 18	15 55		3 0	
			8 0	Low Water
			7 10	Low Water
	13 37		4 0	
	13 59		3 10	
	14 27		3 7	
	14 52		3 4	
♀ — 19	15 43½	0 10,3	2 6	High Water

1773	Time by the Clock	Apparent Time	Height of the Water	Remarks
	H	H	F I	
♀ Nov 19	16 40		3 4	
	17 2		3 7	
	17 27		3 10	
	17 45		4 0	
			7 6½	Low Water
			7 4	Ditto
	14 26		4 3	
	14 31		4 2	
	14 34		4 1	
♄ — 20	16 16⅓	0 39,¼	3 1	High Water
	17 57		4 1	
	18 0½		4 2	
	18 08		4 3	
			7 2	Low Water
			7 2	Ditto
	15 35		4 4	
	15 39		4 3	
☉ — 21	15 47		4 2	
	17 11¼	1 30,3		High Water
	18 39		4 2	
	18 43		4 3	
	18 46		4 4	

In theſe eight days, the time of high water advanced only 4 h 44 inſtead of 6 h 40, which I conceive it ought to have done. The obſervations were made by means of two poſts, divided into feet and inches, from their tops downwards; and their tops were placed truly level by the aſtronomical quadrant.

Obſervations at Queen Charlotte's Sound, in New Zealand, Continued.

Computations of the going of the Clock.

1773.	Time by Clock of apparent Noon.			Syderial Time of apparent Noon.			Clock ſlow of Syderial Time.		Clock gains on Syderial Time.
	H	′	″	H	′	″	′	″	″
♄ Nov. 6.	14	44	46,06	14	45	52,34	1	06,28	20,78
♂ —— 9.	14	55	46,17	14	57	54,78	2	08,61	20,25
☿ —— 10.	14	59	28,63	15	01	57,49	2	28,86	20,88
♀ —— 12.	15	6	54,51	15	10	05,13	3	10,62	21,05
♄ —— 13.	15	10	38,71	15	14	10,38	3	31,67	22,39
☉ —— 14.	15	14	22,33	15	18	16,39	3	54,06	20,44
☽ —— 15.	15	18	08,75	15	22	23,25	4	14,50	22,02
♂ —— 16.	15	21	54,50	15	26	31,02	4	36,52	20,51
♃ —— 18.	15	29	31,52	15	34	49,05	5	17,53	21,08
♄ —— 20.	15	37	10,47	15	43	10,17	5	59,70	21,76
☽ —— 22.	15	44	51,38	15	51	34,60	6	43,22	
							Mean is		21,116

The clock was fixed up as uſual, and the pendulum of the ſame length.

Computations of the going of Mr. Kendall's Watch.

1773.	Time by the the Clock of apparent Noon.	Time by Clock when the Watch was compared.	Time from Noon by the Clock.	Clock's gain on the Watch.	Time from Noon by the Watch.	Time by the Watch when compared.	Time of apparent Noon by the Watch.	Mean Time of apparent Noon.	Watch too ſlow for mean Time.	Watch gains on mean Time.
	H ′ ″	H ′ ″	′ ″	″	′ ″	H ′	H ′ ″	H ′ ″	H ′ ″	″
♄ Nov. 6.	14 44 46,06	14 51 0,25	6 14,19	0,90	6 13,29	12 36	12 29 46,71	23 43 51,40	11 14 04,69	7,79
♂ —— 9.	14 55 46,17	14 43 21,50	12 24,67	1,78	12 22,89	12 18	12 30 22,89	23 44 04,20	11 13 41,31	9,70
☿ —— 10.	14 59 28,63	15 11 51,75	12 23,12	1,77	12 21,35	12 43	12 30 38,65	23 44 10,26	11 13 31,61	7,20
♀ —— 12.	15 06 54,51	15 9 47,25	2 52,74	0,42	2 52,32	12 34	12 31 7,68	23 44 24,90	11 13 17,22	9,03
♄ —— 13.	15 10 38,71	15 23 15,25	12 36,54	1,80	12 34,74	12 41	12 31 25,26	23 44 33,45	11 13 8,19	8,27
☉ —— 14.	15 14 22,33	15 22 40,50	8 18,17	1,16	8 17,01	12 40	12 31 42,99	23 44 42,91	11 12 59,92	12,17
☽ —— 15.	15 18 08,75	15 25 04,25	6 55,50	0,98	6 54,52	12 39	12 32 5,48	23 44 53,23	11 12 47,75	8,47
♂ —— 16.	15 21 54,50	15 38 31,75	16 37,25	2 37	16 34,88	12 49	12 32 25,12	23 45 04,40	11 12 39,28	11,16
♃ —— 18.	15 29 31,52	15 38 20,50	8 48,98	1,25	8 47,73	12 42	12 33 12,27	23 45 29,22	11 12 16,95	9,89
♄ —— 20.	15 37 10,47	15 43 11,25	6 00,78	0,86	5 59,92	12 40	12 34 00,08	23 45 57,25	11 11 57,17	7,43
☽ —— 22.	15 44 51,38	15 44 05,25	0 46,13	0,11	0 46,02	12 34	12 34 46,02	23 46 28,33	11 11 42,31	
									Mean is	9,091

Obfervations for the Dip of the Magnetic Needle, made at Tolaga Bay, in New Zealand, by Mr Bayley

1773	Dip of the Needle's South End							
	Face of the Inftrument				After changing the Poles			
	Eaft		Weft		Face Eaft		Face Weft	
	°	′	°	′	°	′	°	′
☽ Nov 15	62	0	62	15	62	0	62	10
	62	27	62	35	62	30	62	27
	61	55	63	0	62	55	63	0
	62	10	62	45	62	16	62	40
	62	35	63	20	62	10	61	55
	63	0	62	27	61	55	62	0
	62	47	62	45	62	27	62	30
	62	24	62	0	63	0	62	15
	61	50	62	15	62	40	62	20
	62	16	62	10	62	16	62	45
Means	62	20,4	62	33,2	62	24,9	62	24,2
	Mean of the above four Means						62	25,1

The latitude of Tolaga Bay Mr Bayley found to be 38° 21½ S and its longitude 178 33¾ E The variation of the compafs was 13° 40 E

Obfervations by Mr Bayley, at Queen Charlotte's Sound, in New Zealand

1773	Equal Altitudes Times by the Clock C: Lower Wire ′ ″	Middle Wire H ′ ″	Upper Wire ′ ″	Zenith Diftance ° ′ ″	Time of apparent Noon by the Clock H ′ ″	Phenomena and Remarks	
☽ Dec. 6	—	12 9 18	11 49	61 0 0		☉'s U L	Eafterly
	9 44	12 15½	—			☉'s L L	
	—	12 18 15	20 34½	59 20 0		☉'s U L	
	18 40¼	21 11	—			☉'s L L	
♂ — 7					16 53 39,6		
	28 47¼	21 26 18¼	—	59 20 0		☉'s L L	Wefterly
		21 29 12½	26 45			☉'s U L	
	37 42¾	21 35 11½	—	61 0 0		☉'s L L	
	—	21 38 9½	35 41			☉'s U L	
	6 6	12 8 38	11 19	61 40 0		☉'s U L	Eafterly
	9 3½	11 34½	14 6½			☉'s L L	
	43 29½	12 46 0½	48 29½	54 40 0		☉'s U L	
	—	48 54½	51 25½			☉'s L L	
	57 41	13 0 11½	2 41½	52 0 0		☉'s U L	
	0 38	3 7	5 37¼			☉'s L L	
☿ — 8					16 56 53,68		

Obfervations by Mr. Bayley, at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Times by Clock C. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Diftance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.	
♀ Dec. 8.	53 16½	20 50 46½	48 17½	52 0 0		☉'s L. L.	Wefterly.
	56 11¼	53 42¼	51 11¾			☉'s U. L.	
	———	21 4 59	2 29½	54 40 0		☉'s L. L.	
	10 23½	21 7 54¼	5 24			☉'s U. L.	
	44 52	21 42 18¼	39 49:	61 40 0		☉'s L. L.	
	———	21 45 17½	42 46½			☉'s U. L.	
	12 37	12 15 8½	17 38½	61 0 0		☉'s U. L.	Eafterly.
	———	12 18 4½	20 35¼			☉'s L. L.	
	———	13 40 30	43 02	45 0 0		☉'s U. L.	
	40 57½	13 43 28½	46 01¼			☉'s L. L.	
♃ —— 9.					17 0 08,77		
	19 26	20 16 53½	14 21	45 0 0		☉'s L. L.	Wefterly.
	———	20 19 52¼	17 20¾			☉'s U. L.	
	———	21 42 19½	39 50½	61 0 0		☉'s L. L.	
	47 45½	21 45 17¼	42 45½			☉'s U. L.	
	45 50	12 48 20¼	50 49	55 20 0		☉'s U. L.	Eafterly.
	48 46½	12 51 16½	———			☉'s L. L.	
	36 22½	13 39 53½	42 24½	45 40 0		☉'s U. L.	
	40 21:	13 42 51½	45 22½			☉'s L. L.	
♀ —— 10.					17 3 23,95		
	26 33½	20 24 2	21 32	45 40 0		☉'s L. L.	Wefterly.
	28 29½	20 26 59½	24 28½			☉'s U. L.	
	18 8	21 15 37½	———	55 20 0		☉'s L. L.	
	21 3¼	21 18 32½	16 2¼			☉'s U. L.	
	20 21½	12 22 53	25 24	60 40 0		☉'s U. L.	Eafterly.
	23 18	12 25 49½	28 19½			☉'s L. L.	
	6 37½	13 9 7	11 37	52 0 0		☉'s U. L.	
	———	13 12 3½	14 31½			☉'s L. L.	
♄ —— 11.					17 6 40,90		
	———	21 1 23½	58 53½	52 0 0		☉'s L. L.	Wefterly.
	6 48½	21 4 19½	1 50			☉'s U. L.	
	50 8½	21 47 36½	45 6	60 40 0		☉'s L. L.	
	53 4½	21 50 34¼	48 2½			☉'s U. L.	
	52 49:	11 55 21	57 55	66 20 0		☉'s U. L.	Eafterly.
	55 46½	11 58 21	———			☉'s L. L.	
	53 40½	12 56 11	58 41	55 0 0		☉'s U. L.	
	56 36½	12 59 7	1 37			☉'s L. L.	
☉ —— 12.					17 09 56,71		
	23 23	21 20 52½	18 23	55 0 0		☉'s L. L.	Wefterly.
	26 17¾:	21 23 47½	21 18¼			☉'s U. L.	
	24 11½	22 21 38	———	66 20 0		☉'s L. L.	
	27 9	22 24 37¼	22 5½			☉'s U. L.	

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Equal Altitudes Times by Clock C: Lower Wire	Middle Wire	Upper Wire	Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
☉ Dec 12	50 25½	11 52 59	55 31	67 20 0		☉'s U L Easterly
	53 24	11 55 59	——			☉'s L L
	46 5	12 48 34	51 5½	57 0 0		☉'s U L
	49 0½	12 51 30¾	53 59½			☉'s L L
☽ —— 13					17 13 13,24	
	37 33	21 35 0	32 31	57 0 0		☉'s L L Westerly
	40 27¼	21 37 56½	35 28			☉'s U L
	33 6½	22 30 33	——	67 20 0		☉'s L L
	36 5½	22 33 32¼	31 0½			☉'s U L
♂ —— 14	14 43½	12 17 15½	——	64 0 0		☉'s U L Easterly
	17 42½	——	——			☉'s L L
	50 31	12 52 59½	55 31	57 20 0		☉'s U L
	53 25½	—— ——	——			☉'s L L
	27 46½	13 30 17	32 47¼	50 20 0		☉'s U L
	30 43¼	13 33 13½	35 43½			☉'s L L
☿ —— 15					17 19 50,31	
	9 1½	21 6 29	4 0½	50 20 0		☉'s L L Westerly
	11 54½	21 9 25	6 54½			☉'s U L
	46 17	21 ——	——	57 20 0		☉'s L L
	49 13¼	21 46 43	44 13			☉'s U L
	22 4	22 ——	——	64 0 0		☉'s L L
	25 1½	22 22 29½	——			☉'s U L

Computations of the Rate of going of the Clock C

1773	Time of apparent Noon by the Clock	Sydereal Time of apparent Noon	Clock too ſlow for Sydereal Time	Clock loſes on Sydereal Time.
	H ′ ″	H ′ ″	′ ″	′ ″
♂ Dec 7	16 53 39,6	16 56 07 70	2 28,10	
☿ —— 8	16 56 53,68	17 0 30,70	3 37,02	1 8,92
♃ —— 9	17 0 08,77	17 4 54,20	4 45,43	1 8,41
♀ —— 10	17 3 23,97	17 9 18,52	5 54,55	1 9,12
♄ —— 11	17 6 40,90	17 13 43,20	7 02 30	1 7,75
☉ —— 12	17 9 56 71	17 18 8,01	8 11,30	1 9,00
☽ —— 13	17 13 13,24	17 22 33,40	9 20,16	1 8,86
☿ —— 15	17 19 50,31	17 31 24 51	11 34,20	1 7,02
			Mean rate is	1 8,47

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Computations of the Rate which Mr. Arnold's Watch (No. 1.) went at.

1773.	Time by the Clock. H ′ ″	Time by the Watch. H ′ ″	Clock before the Watch. H ′ ″	Watch loses on the Clock. ′ ″	Time between the Comparisons. H ′	Watch loses on the Clock per Day. ′ ″	Watch loses on Sydereal Time per Day. ′ ″	Watch loses on Sydereal Time per Day. ′ ″	Watch loses on mean Time per Day. ″
♂ Dec. 7.	17 3 8	8 25 0	8 38 08	3 30	23 58	3 30,29	1 8,92	4 39,21	42,71
☿ —— 8.	17 4 38	8 23 0	8 41 38	3 32	24 08	3 30,83	1 8,41	4 39,24	42,74
♃ —— 9.	17 16 10	8 31 0	8 45 10	3 30½	23 48	3 32,25	1 9,12	4 41,37	44,87
♀ —— 10.	17 7 40½	8 19 0	8 48 40½	3 30½	23 39	3 33,57	1 7,75	4 41,32	44,82
♄ —— 11.	16 50 11	7 58 0	8 52 11	3 46	25 15	3 35,07	1 9,0	4 44,07	47,57
☉ —— 12.	18 8 57	9 13 0	8 55 57	3 25	22 59	3 33,93	1 8,86	4 41,79	45,29
☽ —— 13.	17 11 22	8 12 0	8 59 22	3 30	23 19	3 36,0	1 7,02	4 43,02	46,52
♂ —— 14.	16 33 52	7 31 0	9 2 52	3 42	24 49	3 34,83	1 7,02	4 41,85	45,35
☿ —— 15.	17 26 34	8 20 0	9 6 34						
									44,984

Mr. Bayley farther computes, that the Watch was too slow for mean Time, at Queen Charlotte's Sound, on December the 15th, at noon, by 15 h. 42′ 17″,46.

Meridian Altitudes of the Sun and Stars for determining the Latitude.

1773.	Zenith Distance. Interior Arch. ° ′ ″	Exterior Arch. G. S. V.	″	Exterior Arch reduced. ° ′ ″	Latitude. ° ′ ″	Phenomena.
♂ Dec. 7.	18 42 50	19 3 27	0	18 42 48,1	41 5 58,1	☉'s L. L.
	18 10 15	19 1 17	0	18 10 16,9		☉'s U. L.
♀ —— 10.	18 24 40	19 2 18	0	18 24 47,1	41 5 43,3	☉'s L. L.
	17 51 18	19 0 06	0	17 51 23,2		☉'s U. L.
♄ —— 11.	18 20 0				41 5 48,2	☉'s L. L.
	17 46 25	18 3 27	0	17 46 33,1		☉'s U. L.
	57 05 55	60 3 20	0	57 5 58,5	41 5 27,8	Aldebaran,
	32 36 08	34 3 3	0	32 36 0,3	41 5 33,1	Rigel.
	69 26 18	74 0 9	— 10	69 26 17,3	41 5 17,5	β Tauri.
	48 24 37	51 2 18	0	48 24 47,1	41 5 08,8	α Orionis.
☽ —— 13.	57 6 02	60 3 20	+ 9	57 6 7,5	41 5 35,3	Aldebaran.
				Latitude	41 5 34	South.

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued

Obſervations for the Longitude of the Place

1773	Time by the Clock	Apparent Time.	Altit. of the ☉'s L L	Zenith Diſtance ☽'s U L	Diſtance neareſt Limbs of ☉ and ☽	Barom	Therm In Tent	Therm Out.	Longitude Eaſt
	H ′ ″	H ′	° ″	° ′ ″	H ′	Inches	°	°	° ′ ′
☽ Dec 6	12 40 45		34 27	55 4 36	94 53 35				
	44 26		35 6	55 30 0	53 0				
	47 34	19 53 33,6	35 42	55 50 10	52 10	30,32	53¼	50	174 01 01½
	49 05		36 0	56 0 24	51 37				
	51 32		36 28	56 14 30	51 10				
	12 55 02		37 06	56 41 25	94 50 0				
	57 04		37 30	56 55 20	49 0				
	59 01	20 5 47,5	37 54	57 10 12	48 10	30,32	53¼	50	174 25 0
	13 0 36		38 10	57 21 5	47 0				
	13 28 25		43 22	60 55 36	94 37 0				
	31 15	20 37 45,3	43 52	61 18 50	35 55	30,32	53¼	50	174 12 34½
	33 13		44 17	61 34 50	35 45				
	14 13 39		51 39	67 29 0	94 19 40				
	16 29	21 23 9,3	52 10	67 55 10	18 15	30,32	56	51	174 14 34½
	19 15		52 42	68 20 53	17 10				
			+ 4		— 3 30	Errors of the Quadrants			
♂ — 7	11 7 22		16 37	44 15 10	83 8 35				
	14 10	18 17 12,7	17 52	6 4	6 17	30,30	52	54¼	174 11 22½
	18 21		18 36	1 18	5 25				
	12 22 45		30 30	45 20 0	82 42 22				
	26 45		31 15	33 30	41 15				
	28 46		31 37	41 10	40 40				
	30 44	19 32 53,6	32 0	48 18	40 20	30,30	56	55	173 56 01½
	32 15		32 17	54 12	39 55	The errors of the Quadrants as above			
	33 52		32 36	46 0 30	39 10				
			Altit. of Regulus	Zenith Diſtance ☽ s L L.	Diſtance ☽ s far L from Regulus				
☿ — 8	8 40 55		56 31	26 34	38 44 30				
	8 46 56	15 47 13,7	56 02	27 37	48 0	30,40	54	51¼	174 16 26¼
	8 50 57		55 51	28 19	49 40				
	8 53 37		55 42¼	28 42	51 10				
	8 57 12	15 58 18,0	55 31¼	29 17	53 15	30,40	54	52	173 52 30
	9 1 14		55 22	29 56	54 30				
			+ 4		— 6 27	Errors of the Quadrants			

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations for the Longitude of the Place.

1773.	Time by the Clock. H ′ ″	Apparent Time. H ′ ″	Altit. of the ☉'s L. L. ° ′	Zenith Distance ☽'s U.L. ° ′ ″	Distance nearest Limbs of ☉ and ☽. ° ′ ″	Barom. Inches.	Therm. In Tent. °	Therm. Out. °	Longitude East. ° ′ ″
☿ Dec. 8.	10 59 26		14 40	43 37 22	70 27 25				
	11 2 15		15 10	43 21 36	26 15				
	4 28		15 35	43 9 0	26 0				
	6 58		16 0	42 56 25	25 50				
	8 46	18 09 57	16 20	42 46 36	25 10	30,37	54	52	174 9 22½
	10 43		16 39	42 36 42	25 0				
	12 23		16 58	42 28 41	24 20				
	13 58		17 16	42 21 0	23 40				
	15 45		17 34	42 12 20	22 30				
			+ 4	☽'s L. L.	− 3 30	Errors of the Quadrants.			
♀ —— 10.	10 58 19		13 25	37 21	43 49 36				
	11 1 36	17 55 14,2	14 0	37 54	49 15	30,40	56	54	174 11 3
	11 3 21		14 20	38 12	48 30	Errors of the Quadrants as above.			
♂ —— 14.	3 19 50	10 1 56,0	♃'s first satellite emerged: the air very clear, and ♃'s belts exceedingly distinct. Magnifying power 150.						174 15 30

Observations on the Tides.

1773.	Apparent Time. H ′	Time by the Clock. H ′	Height of the Water. F. I.	Remarks.
☽ Dec. 13.		13 16	1 6	
		13 20	1 7	
		13 25	1 8	
		13 30	1 9	
		13 38	1 10	
		13 42	1 10½	
		13 47	1 11	
	21 7	14 23	1 11¾	High Water.
		14 55	1 11	
		15 1	1 10½	
		5	1 10	
		15	1 9	
		23	1 8	
		30	1 7	

1773.	Apparent Time. H ′	Time by the Clock. H ′	Height of the Water. F. I.	Remarks.
☽ Dec. 13.		15 35	1 6	
♂ —— 14.		19 0	0 8¼	
		19 12	0 7	
	2 18	19 34	0 6½	Low Water.
		19 50	0 7	
		20 13	0 8¼	
		14 0	1 9	
		14 5	1 10	
		14 15	2 0½	
		14 25	2 02½	
		14 30	2 03½	
		14 45	2 04½	
	21 51	15 10	2 05½	High Water.
		15 40	2 04½	

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued

Obſervations on the Tides

1773	Apparent Time H	'	Time by the Clock H	'	Height of the Water F	I	Remarks.
♂ Dec 14			15	47	2	3½	
			15	53	2	2½	
			16	03	2	0½	
			16	15	1	10	
			16	22	1	9	
☿ —— 15			19	50	0	9	
			19	56	0	8½	
	3	5	20	25	0	7	Low Water
			20	55	0	8½	
			20	58	0	9	
			15	0	1	10½	
			15	6	1	11½	
			15	14	2	0½	

1773	Apparent Time. H	'	Time by the Clock H	'	Height of the Water F	I	Remarks
☿ Dec 15			15	25	2	2	
			15	41	2	3	
	22	39	16	1	2	4¼	High Water
			16	25	2	3	
			16	35	2	2	
			16	45	2	0¼	
			16	51	1	11½	
			17	5	1	10¼	
♃ —— 16			20	40	0	8	
			20	47	0	7	
	3	54	21	17	0	6	Low Water
			1	46	0	7	
			21	55	0	8	

In the foregoing Obſervations, Mr Bayley uſed two poſts, as I did but the o, or beginning of the diviſions on that he found the high water by, was 4 feet and ¾ of an inch higher than o on that whereby low water was eſtimated consequently, ſo much muſt be added to the difference of the heights of the water, as put down at theſe two times

Obfervations by Mr. Bayley, at the Cape of Good Hope.

1774.	Equal Altitudes. Times by the Clock C. Lower Wire.	Middle Wire	Upper Wire.	Zenith Diftances.	Time of apparent Noon by the Clock.	Phenomena and Remarks.	
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″		
♂ March 22.	21 40	20 24 27	26 34	62 20 0		☉'s U. L.	
	24 29	20 26 56½	29 24			☉'s L. L.	Eafterly.
	33 8	20 34 37¼	37 5½	60 20 0		☉'s U. L.	
	35 0½	20 37 29½	——			☉'s L. L.	
☿ —— 23.					0 6 17,66		
	37 12	3 34 43½	——	60 20 0		☉'s L. L.	
	40 03¼	3 37 35¼	35 5½			☉'s U. L.	Wefterly.
	47 41¼	3 45 14	42 46½	62 20 0		☉'s L. L.	
	50 31	3 48 4	45 37½			☉'s U. L.	
	45 46½	19 48 7¼	50 29¼	70 0 0		☉'s U. L.	
	48 27½	19 50 51¼	53 12½			☉'s L. L.	
	——	20 6 46	9 8	66 20 0		☉'s U. L.	Eafterly.
	7 4¾	20 9 30½	11 52½			☉'s L. L.	
	18 04	20 20 29	22 55	63 40 0		☉'s U. L.	
	20 50½	20 23 19½	25 44			☉'s L. L.	
♃ —— 24.					0 8 18,70		
	55 51½	3 52 55¼	50 30	63 40 0		☉'s L. L.	
	58 9¼	3 55 44	53 18½			☉'s U. L.	
	9 8	4 6 43	4 18½	66 20 0		☉'s L. L.	Wefterly.
	——	4 9 29¾	7 5¼			☉'s U. L.	
	27 41½	4 25 19½	22 58¼	70 0 0		☉'s L. L.	
	30 24½	4 28 3¼	25 42¼			☉'s U. L.	
♀ —— 25.	——	19 45 19½	47 40½	71 50 0		☉'s U. L.	
	45 41¼:	19 48 3½	——			☉'s L. L.	Eafterly.
	8 43	20 11 8	——	66 45 0		☉'s U. L.	
	——	20 13 55½	——			☉'s L. L.	
♄ —— 26.					0 12 21,62		
	——	4 10 23	——	66 45 0		☉'s L. L.	
	15 34½	4 13 9¾	——			☉'s U. L.	Wefterly.
	38 36	4 36 16	——	71 50 0		☉'s L. L.	
	——	4 38 57	36 38			☉'s U. L.	
☉ —— 27.	20 37	21 23 20	26 05	54 40 0		☉'s U. L.	
	23 44½	21 26 30	29 14½			☉'s L. L.	Eafterly.
	——	21 34 18	37 06	52 48 0		☉'s U. L.	
	34 43½	21 37 34½	——			☉'s L. L.	
☽ —— 28.					0 16 25,08		
	——	2 54 53	——	52 48 0		☉'s L. L.	
	——	——	55 20½			☉'s U. L.	Wefterly.
	——	3 ——	3 14	54 40 0		☉'s L. L.	
	——	3 9 6:	——			☉'s U. L.	Cloudy.

Obſervations by Mr Bayley, at the Cape of Good Hope, Continued

1774	Equal Altitudes Times by the Clock C — Lower Wire ′ ″	Middle Wire H ′ ″	Upper Wire	Zenith Diſtance. ° ′ ″	Time of apparent Noon by the Clock H ′ ″	Phenomena and Remarks
♂ March 29	Removed the Tent, Clock, &c. into another part of the garden, becauſe where it had ſtood hitherto, the wind blew a great deal of ſand and duſt into the Obſervatory, which hurt the inſtruments but in doing of this, the length of the pendulum was not altered but the pendulum was ſecured as it was The Clock ſtood before facing the north; it now faced the ſouth, ſo that in both caſes the pendulum vibrated E and W or parallel to the Table Mountain nearly					
	26 45	7 30 4½	33 24½	58 30 0	9 56 40,12	Regulus Eaſt
	26 35¼	12 23 16½	19 55			Regulus Weſt
	———	20 24 16½	26 42¼	69 40 0		☉ s U L
	24 39	20 ———	29 28			☉ s L L
	37 21½	20 29 47¼	42 1	66 40 0		☉ s U L Eaſterly
	40 10	20 42 37	45 5½			☉ s L L
	47 50	20 50 19	5 48¼	64 40 0		☉ s U L
	50 40½	20 53 11	55 40			☉ s L L
☿ — 30					0 35 32,56	
	20 0	4 17 31	14 59½	64 40 0		☉'s L L
	22 50	4 20 21½	17 53½			☉ s U L
	30 30½	4 28 1½	25 30	66 40 0		☉ s L L Weſterly
	33 19¼	4 30 51¼	28 24			☉'s U L
	46 2¼	4 ———	41 10¼	69 40 0		☉ s L L
	———	4 46 22	43 57½			☉ s U L
	56 48	20 59 17½	1 48	63 40 0		☉ s U L
	59 40	21 2 11½	4 43			☉'s L L Eaſterly
	7 38	21 10 16	12 40	61 40 0		☉ s U L
	10 29½	21 13 3½	15 36			☉ s L L
♃ — 31					0 37 52,57	
	4 52	4 2 18	59 44	61 40 0		☉'s L L
	7 48½	4 5 15¼	2 41¼			☉'s U L
	15 41	4 13 9	10 37	63 40 0		☉'s L L Weſterly
	18 32	4 16 3	13 32			☉ s U L
	23 49	20 26 13	28 38	70 40 0		☉ s U L
	26 35	20 29 0	31 25½			☉'s L L Eaſterly
	35 51	20 38 20	40 44	68 20 0		☉'s U L
	38 38½	20 41 06	43 32			☉'s L L
♀ April 1					0 40 10,64	
	41 17	4 38 49	36 22¼	68 20 0		☉ s L L
	———	4 41 39	39 12½			☉ s U L
	53 11	4 50 56	48 29¼	70 40 0		☉ s L L Weſterly
	56 7	4 53 42¼	51 17			☉'s U L
☉ — 3	36 13½	20 38 39½	41 17¼	70 20 0		☉'s U L
	39 0½	20 41 2½	43 5¼			☉ s L L Eaſterly
	———	20 50 54	53 22¼	68 0 0		☉ s U L
	51 14½	20 53 44	———			☉'s L L

Observations by Mr. Bayley, at the Cape of Good Hope, Continued.

1773.	Equal Altitudes. Times by the Clock C. Lower Wire.			Zenith Distance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
☉ April 3.		21 59 52	2 43	55 40 0		☉'s U. L. Easterly.
	0 18¼	22 3 9	——			☉'s L. L.
☽ —— 4.					0 47 12,0	
	33 42¼	3 30 52	——	55 40 0		☉'s L. L.
		3 34 8¼	31 17½			☉'s U. L.
	42 43½	4 40 13½	——	68 0 0		☉'s L. L. Westerly.
		4 43 5½	40 36¼			☉'s U. L.
	54 55¼	4 52 29¼	50 02	70 20 0		☉'s L. L.
	57 45	4 55 17½	52 51½			☉'s U. L.
	39 51	20 42 15¾	44 43½	70 20 0		☉'s U. L.
	42 37½	20 45 6	——			☉'s L. L.
	52 3½	20 54 33	57 02	68 0 0		☉'s U. L. Easterly.
	54 54¼	20 57 24½	59 54			☉'s L. L.
	8 05	21 10 38¼	13 11½	65 0 0		☉'s U. L.
	11 01½	21 13 34	——			☉'s L. L.
♂ —— 5.					0 49 33,30	
	27 41½	4 25 09½	——	65 0 0		☉'s L. L.
	30 35½	4 28 4	25 31			☉'s U. L.
	43 46½	4 41 17½	38 46½	68 0 0		☉'s L. L. Westerly.
	46 36½	4 44 7½	41 38¼			☉'s U. L.
	56 3¼	4 53 36	——	70 20 0		☉'s L. L.
	58 49½	4 56 24½	53 57½			☉'s U. L.
	43 25½	20 45 52¼	48 21	70 20 0		☉'s U. L.
	46 14	20 48 42½	——			☉'s L. L. Easterly.
	1 03	21 3 31½	6 2½	67 0 0		☉'s U. L.
	3 53½	21 6 25	8 57			☉'s L. L.
☿ —— 6.					0 51 54,655	
	39 31	4 36 59½	34 28½	67 0 0		☉'s L. L.
	42 23½	4 39 52¼	37 22½			☉'s U. L. Westerly.
	57 9½	4 54 41½	——	70 20 0		☉'s L. L.
	59 58¼	4 57 31½	55 04			☉'s U. L.
♄ —— 9.	45 38	20 48 5	50 33¼:	72 40 0		☉'s U. L.
	48 25½	20 50 54½	53 22½			☉'s L. L.
	6 49	21 9 20½	11 52	68 40 0		☉'s U. L. Easterly.
	9 42¼	21 12 15¼	14 47			☉'s L. L.
	17 10¼	21 19 44¼	22 19½	66 45 0		☉'s U. L.
	20 06½	21 22 41	25 16			☉'s L. L.
☉ —— 10.					1 1 24,12	
	42 16	4 39 41½	37 6½	66 45 0		☉'s L. L. Westerly.
	45 13½	4 42 39½	40 04¼			☉'s U. L.

Obſervations by Mr Bayley, at the Cape of Good Hope, Continued

1773	Equal Altitudes Times by Clock C: Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks	
		H ″	″	′ ″	H ″		
☉ April 10	52 41	4 50 8½	47 36	68 40 0		☉'s L L	Weſterly
	55 33⅓	4 53 2½	50 31			☉'s U L	
	13 55½	5 11 29	9 0			☉'s L L	
	16 44½	5 14 17¾	11 49¾	72 40 0		☉'s U L	

⁂ It is manifeſt, at firſt ſight, that the clock went conſiderably faſter after it was taken down than it did before Mr Bayley remarks, that he is abſolutely certain that no alteration happened in the length of the pendulum, but does not attempt to aſſign any other cauſe, which indeed does not ſeem eaſy to be done When it was firſt ſet up, the pendulum vibrated 1° 44 each way from the perpendicular, or point of reſt, and increaſed its vibrations regularly, until it was removed, when its vibrations were 1° 48 each way After it was removed, the vibrations were from 1° 46 to 1° 47 each way

Computations of the going of Clock C

1774	Time of apparent Noon by the Clock	Syderial Time of apparent Noon	Clock ſlow of Syderial Time	Clock loſes on Syderial Time
	H ′	H ′ ″	″	′
☿ March 23	0 6 17 66	0 10 36 5	4 18 84	
♃ —— 24	0 8 18 70	0 14 14 2	5 55 50	1 36 66
♄ —— 26	0 12 21 62	0 21 29 82	9 08 20	1 36 35
☽ —— 28	0 16 25 08	0 28 45 2	12 20,12	1 35 96
				1 36 327
	Removed the Obſervatory Clock &c.			
☿ —— 30	0 35 32 56	0 36 00,8	0 28 24	
♃ —— 31	0 37 52 57	0 39 38 6	1 46 03	1 17 79
♀ April 1	0 40 10,64	0 43 16 54	3 05 90	1 19 87
☽ —— 4	0 47 12 00	0 54 11,8	6 59 80	1 17 97
♂ —— 5	0 49 33 30	0 57 50 5	8 17 20	1 17 40
☿ —— 6	0 51 54 66	1 1 29 3	9 34,64	1 17 44
☉ —— 10	1 1 24 12	1 16 07,1	14 42,98	1 17 08
				1 17 925

Obſervations for the Variation

1774	Zenith Diſtance ☉'s U L	Azimuth of the ☉'s Center	Variation Weſt	
	′ ″			
♃ April 7	74 0 5	S 87 37½ E	21 59 10	
	73 0 40	88 47½		
	72 15 32	S 89 30 E	21 30 00	
	71 46 47	90 0		
	71 13 10	91 0		
♀ —— 8	76 29 42	S 86 42¼ E	21 27,46	
	75 10 23	88 12		
	73 16 26	89 0		
	71 55 12	N 46 35 W	21 25 50	
	72 43 31	47 17½		
	73 13 12	48 30		
		The mean is	21 35 1	Weſt

Observations by Mr. Bayley, at the Cape of Good Hope, Continued.

Computations of the going of Mr. Arnold's Watch (No. 1).

1774.	Time of Comparison by the Clock. H ′ ″	Time of Comparison by Watch. H ′	Watch slower than the Clock. H ′ ″	Watch loses on the Clock. ′ ″	Interval between the Comparisons. ′ ″	Watch loses on the Clock in 24 hours. ′ ″	Clock loses on Syderial Time. ′ ″	Watch loses on Syderial Time. ′ ″	Watch loses on mean Time. ′ ″
☿ March 23.	0 20 1	17 35	6 45 01	3 24	24 20	3 21,20	1 36,66	4 57,86	1 01,36
♃ —— 24.	0 43 25	17 55	6 48 25	3 19	23 40	3 21,80	1 36,35	4 58,15	1 01,65
♀ —— 25.	0 26 44	17 35	6 51 44	3 21	23 39	3 23,94	1 36,35	5 00,29	1 03,79
♄ —— 26.	0 9 5	17 14	6 55 5	3 20½	23 51	3 21,76	1 35,96	4 57,72	1 01,22
☉ —— 27.	0 3 25½	17 05	6 58 25½	3 25	24 09	3 23,74	1 35,96	4 59,70	1 03,20
☽ —— 28.	0 15 50½	17 14	7 1 50½	Clock removed					
♂ —— 29.	0 46 05¼	17 26	7 20 5¼	3 41¾	23 53	3 42,83	1 17,79	5 00,62	1 04,12
☿ —— 30.	0 42 47	17 19	7 23 47	3 42½	24 14	3 40,34	1 17,79	4 58,13	1 01,63
♃ —— 31.	1 0 29½	17 33	7 27 29½	3 39¼	23 52	3 40,49	1 19,87	5 00,36	1 03,86
♀ April 1.	0 56 8¼	17 25	7 31 8¼	3 36¼	23 27	3 41,16	1 17,97	4 59,13	1 02,63
♄ —— 2.	0 26 45	16 52	7 34 45	3 46	24 24	3 42,28	1 17,97	5 00,25	1 03,75
☉ —— 3.	0 54 31	17 16	7 38 31	3 49	24 33	3 44,09	1 17,97	5 02,06	1 05,56
☽ —— 4.	1 31 20	17 49	7 42 20	3 40½	23 41	3 43,44	1 17,40	5 00,84	1 04,34
♂ —— 5.	1 16 0½	17 30	7 46 0½	3 44¼	23 55	3 45,02	1 17,44	5 02,46	1 05,96
☿ —— 6.	1 14 44¾	17 25	7 49 44¾	3 42¼	23 40	3 45,34	1 17,08	5 02,42	1 05,92
♃ —— 7.	0 58 27	17 5	7 53 27	3 40	23 30	3 44,44	1 17,08	5 01,52	1 05,02
♀ —— 8.	0 32 7	16 35	7 57 7	3 52	24 45	3 45,23	1 17,08	5 02,31	1 05,81
♄ —— 9.	1 20 59	17 20	8 0 59	3 38	23 23	3 43,53	1 17,08	5 00,61	1 04,11
☉ —— 10.	0 47 37	16 43	8 4 37						
						Mean rate of the Watch			1 3,76

Meridian Zenith Distances of the Sun and Stars for the Latitude of the Place.

1774.	Zenith Distances. Interior Arch. ° ′ ″	Zenith Distances. Exterior Arch. G. S. V.	+″	Exterior Arch reduced. ° ′ ″	Barom.	Therm.	Latitude. ° ′ ″	Phenomena.
♀ March 25.	36 6 40	——	——	——	30,00	72	33 54 52½	☉'s L. L.
	35 34 20	37 3 24	25	35 34 24				☉'s U. L.
♂ —— 29.	37 40 30	——		——	30,15	66	33 54 .29	☉'s U. L.
	37 8 0	39 2 14	0	37 8 1½				☉'s L. L.
☿ —— 30.	23 56 0	25 2 3	19	23 56 0	29,97	60	33 55 2½	Spica ♍.
♀ April 1.	27 54 23	29 3 2	13	21 54 42	30,01	57½	33 55 55½	α Crucis
	24 30 42	26 0 19	0	24 30 51	30,01	57½	33 55 57½	β Crucis
☉ —— 3.	39 36 15	——	——	——	30,08	66	33 55 14	☉'s U. L.
	39 4 0	41 2 21	18	39 3 54				☉'s L. L.

Observations by Mr. Bayley, at the Cape of Good Hope, Continued

Meridian Zenith Distances of the Sun and Stars for the Latitude of the Place

1774			Zenith Distances Interior Arch °	Zenith Distances Exterior Arch G S V	+	Exterior Arch reduced °	Barom	Therm	Latitude	Phenomena
☽	April	4	46 57 47	50 0 12	0	46 57 46	30,05	59	33 55 11	Regulus
♂	——	5	40 22 07	——		——				☉'s L L
			39 49 38	42 1 30	0	39 47 45	30,10	69	33 55 23	☉'s U L
☿	——	6	39 41 26	42 1 11	9	39 41 32½	30 00	65½	33 55 06½	Procyon
♃	——	7	41 7 0	——	——	——				☉'s L L
			40 34 40	43 1 4	12	40 34 46	30,03	72	33 55 08	☉'s U L
							Mean		33 55 14	South

But if the northern and southern stars be taken separately, and a mean of the two be then taken the latitude will be 33° 55′ 30″ S. W. W.

Observations for the Dip of the Needle's South End

1774	Plane of the Instrument East °	′	Plane of the Instrument West °	′
	45	32	45	45
	45	0	45	0
	45	15	45	28
	44	56	46	0
	45	15	46	05
	45	05	45	27
	45	37	45	42
	45	30	45	40
	44	58	46	4
	45	30	46	0
6	45	35	45	54
	44	47	46	0

Plane of the Instrument East °	′	Plane of the Instrument West °	′
45	10	45	18
45	09	46	0
45	27	45	57
45	42	46	04
45	10	45	40
44	56	45	39
45	17	45	49
45	20	46	15
45	14	46	0
Changed the Poles			
46	0	45	45
45	34	45	45

Plane of the Instrument East °	′	Plane of the Instrument West °	′
45	30	45	55
45	54	45	45
46	0	45	57
45	45	45	49
46	10	46	10
45	50	46	02
45	48	45	54
45	30	45	29
45	50	45	45
45	26	45	55
45	54	46	0
45	37	45	50

Plane of the Instrument East °	′	Plane of the Instrument West °	′	″
45	29	45	17	
45	40	45	48	
45	45	45	50	
46	05	46	15	
46	0	45	29	
45	42	46	0	
Before the Poles were changed				
Face E		45	16	25
Ditto W		45	48	21
After changing the Poles				
Face E		45	31	27
Face W		45	51	46
Mean Dip		45	37	04

Obſervations by Mr. Bayley, at the Cape of Good Hope, Continued.

Lunar Obſervations for the Longitude.

1774.	Time by the Clock. H ′ ″	Apparent Time. H ′ ″	Zenith Diſtance ☽'s L. L. ° ′ ″	Diſtance ☽ from ☉ or *. ° ′ ″	Barom.	Therm. In Tent. °	Therm. Out. °	Longitude Eaſt. ° ′ ″	
♂ March 29.	12 35 54		34 16 10	69 23 40					
	40 34		33 31 50	25 0					
	44 3	12 11 16	33 0 27	25 30	30,10	59½	57	18 17 0	☽ and Regulus.
	47 31		32 29 7	26 42					
	51 40		31 52 40	27 45					
	54 22		31 30 0	29 45					
				— 6 30	Errors of the Quadrant.				
	13 0 46		30 36 0	31 45 10					
	4 8		30 8 30	43 15					
	6 47		29 48 20	41 45					
	9 11	12 33 46	29 30 0	41 05	30,10	59½	57	18 24 25	☽ and Antares.
	12 40		29 3 44	40 10					
	15 47		28 41 22	39 0					
				— 6 30	Errors of the Quadrant.				
			☽'s U. L.						
♀ April 1.	21 16 19		52 52 38	108 39 30					
	20 01		53 36 42	37 40					
	22 33	20 41 18	54 7 30	36 47	30,02	68	68	18 29 15	☉ and ☽.
	24 51		54 35 27	35 30					
	27 18		55 04 40	34 37					
	29 55		55 36 4	33 10					
	21 32 37		56 9 50	108 32 12					
	35 16		56 40 0	30 50					
	37 36	20 56 19	57 9 42	30 0	30,02	68	68	18 33 22	☽ and ☉.
	39 30		57 31 15	29 30					
	41 41		57 57 27	28 10					
	44 31		58 31 18	26 47					
				— 4 10	Errors of the Quadrant.				
♄ —— 2.	21 36 37		44 42 33	95 10 0					
	39 37		45 18 20	8 10					
	41 49	20 57 2	45 44 22	6 30	30,06	66½	67	18 21 30	☉ and ☽.
	43 52		46 9 0	6 0					
	46 5		46 35 47	5 0					
				— 4 10	Errors of the Quadrant.				

Observations by Mr Bayley, at the Cape of Good Hope, Continued

Lunar Observations for the Longitude

1774	Time by the Clock H ′ ″	Apparent Time H ′ ″	Zenith Distance ☽'s U L ° ′ ″	Distance of the ☉ and ☽'s Limbs ° ′	Barom	Therm In Tent	Therm Out	Longitude East ° ′ ″	
♄ April 2	21 48 10	21 06 16¼	47 0 37	95 4 30	30,06	66½	67	18 13 39	☉ and ☽
	49 58		47 22 0	3 20					
	51 34		47 41 25	3 0					
	53 42		48 7 0	1 40					
				— 4 10	Error of the Quadrant.				
☽ — 4	21 49 57	21 7 30¼	27 17 42	68 49 50	30,0	61	66	18 18 0	☉ and ☽
	53 02		27 48 0	49 4					
	55 33		28 12 10	47 30					
	58 08		28 37 37	47 0					
	22 0 48		29 3 15	46 28					
	3 10		29 28 20	45 47					
	22 5 20	21 21 34¼	29 50 30	44 40	30,0	61	66	18 24 10	☉ and ☽
	7 20		30 10 43	44 0					
	9 33		30 33 25	43 28					
	11 55		30 58 17	42 20					
	14 16		31 3 27	41 27					
	16 46		31 49 30	41 0					

Observations on the Tides

1774.	Height of the Water F I	Time by the Clock H ′	Apparent Time H	Remarks	1774	Height of the Water F I	Time by the Clock H ′	Apparent Time H	Remarks
♄ April 9.	2 4	20 20			♄ April 9	2 1½	21 40		
	2 3	20 25				2 2½	21 45		
	2 2	20 35				2 3	21 50		
	2 1½	20 40				2 4	21 55		
	2 1½	20 50			☉ — 10	1 4	3 1		
	2 2½	21 0				1 4½	3 5		
	2 1½	21 10				1 5	3 10		
	2 0½	21 20				1 5	3 15		
	2 0½	21 25	20 24,0	Low Water		1 5	3 20		
	2 0½	21 30				1 5½	3 25		
	2 0½	21 35				1 5½	3 30	2 26,0	High Water

Obſervations by Mr. Bayley, at the Cape of Good Hope, Continued.

Obſervations on the Tides.

1774.	Height of the Water.	Time by the Clock.	Apparent Time.	Remarks.	1774.	Height of the Water.	Time by the Clock.	Apparent Time.	Remarks.
	F. I.	H ′	H ′			F. I.	H ′	H ′	
☉ April 10.	1 5¼	3 35			☉ April 10.	1 4	3 55		
	1 5	3 40				1 3½	4 0		
	1 4¾	3 45				1 2½	4 5		
	1 4¼	3 50				1 2	4 10		

The above Obſervations were made in the ſame manner as thoſe which Mr. Bayley made at New Zealand and Otaheite; but it is to be noted, that the o, or beginning of the diviſions of his inſtrument, was placed five feet ſeven inches higher at the time of high water, than it was at low; from which quantity, if ſeven inches, the difference of the heights of high and low water, by the inſtrument, be ſubtracted, there will remain five feet for the quantity which the tide flowed on this day.

Obſervations made on the Iſland Ohitahoo, one of the Marqueſas.

Obſervations for the Latitude.

1774.	° ′	
♄ April 9.	35 18	Supplement to the double altitude of the ☉'s L. L. Error of the Quadrant, 1′¾ to be added.
☉ —— 10.	36 3	Ditto. Error of the Quadrant, 1′ 50″ to be added.

The firſt of theſe Obſervations gives 9° 55′¼ South for the Latitude; and the latter 9° 55′ ¾. They were taken from a quickſilver horizon with a Hadley's Sextant, and by the back Obſervation.

Obſervations made on the Iſland Ohitahoo, one of the Marqueſas, Continued

Obſervations for the Dip of the Magnetic Needle's South End

1774	Face of the Inſtrument. East.		West		Face of the Inſtrument East		West		Face of the Inſtrument East		West	
	°	′	°		°		°				°	
	19	30	19	15	18	30	19	20	11	30	11	20
	19	45	18	13	17	50	19	30	11	40	11	3[illegible]
	17	30	17	10	15	50	19	40				
	18	0	17	45	15	40	19	0				
	18	05	18	05	16	0	19	0				
	18	10	18	15	15	50	19	05				

The above Obſervations were made on three different days, the guard not ſtaying long enough on ſhore to permit me to take more at one time, nor even to balance the Needle with more accuracy I imagined that I had changed the Poles of the Needle between every day's Obſervations; but the near agreement which is between the firſt and ſecond and the great diſagreement between theſe and the Obſervations of the third day, incline me to believe that I made ſome miſtake, and did not actually change them the firſt time

Obſervations on the Tides

The high ſurf and ſmall time that I had an opportunity of being on ſhore, rendered it impoſſible for me to make either very accurate or very regular Obſervations of this kind; but I gathered, in the beſt manner I could that it was high water on ♀ April 8, 1774, about one o clock in the afternoon, and that it had fallen about $3\frac{3}{4}$ feet at ſeven o clock, when I went on board, and I believe it was near, if not quite, low water I got no Obſervations on the 9th; but on O the 10th it was low water about nine in the morning, and and high water about three in the afternoon, certainly not ſooner; and the water flowed nearly four feet It was low water on ☽ morning the 11th, about 10 o clock, and the water ebbed out, from the laſt night's tide, about four feet It will readily be underſtood, that too much ſtreſs muſt not be laid on theſe Obſervations when I declare that the ſurf generally broke on the ſhore as high as myſelf

I had no Obſervations for determining the Longitude of this place while here, except by the watch; but by the mean of a great many taken, ſome before we arrived, and others after we left the place, and reduced very carefully by the watch, it appeared to be 220° $51\frac{1}{4}$ East

Obſervations made on Point Venus, in Otaheite.

1774.	Equal Altitudes. Times by the Clock B. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Diſtance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.	
♀ April 22.	50 31:	21 52 27		72 0 0		☉'s U. L.	Eaſterly.
	52 53½	54 50¼	56 46			☉'s L. L.	
	59 26	0 1 47	4 11	45 0 0		☉'s U. L.	
	2 20	4 45	7 7			☉'s L. L.	
♄ —— 23.					2 19 43,89		
	36 54	4 34 31	32 10	45 0 0		☉'s L. L.	Weſterly.
	39 48	37 26	35 06½			☉'s U. L.	
	46 22	6 44 24	42 27¼	72 0 0		☉'s L. L.	
	48 45	46 48	44 51			☉'s U. L.	
☽ —— 25.	33 29	23 35 39	37 52	52 0 0		☉'s U. L.	Eaſterly.
	36 07½	38 24	40 35			☉'s L. L.	
	45 20	23 47 35	49 49½	49 40 0		☉'s U. L.	
	48 05	50 21	52 36			☉'s L. L.	
♂ —— 26.					2 26 55,03		
	5 32	5 3 16	0 59½	49 40 0		☉'s L. L.	Weſterly.
	8 19	6 04	3 48½			☉'s U. L.	
	17 24¼	5 15 11½	13 0½	52 0 0		☉'s L. L.	
	20 09	17 55¼	15 44½			☉'s U. L.	
	8 28¼	22 10 27½	12 26½	70 40 0		☉'s U. L.	Eaſterly.
	10 54½	12 53¼	14 52			☉'s L. L.	
	41 52	23 44 6½	46 20¼	51 0 0		☉'s U. L.	
	44 37	46 51¼	49 7			☉'s L. L.	
☿ —— 27.					2 29 19,91		
	13 49	5 11 34½		51 0 0		☉'s L. L.	Weſterly.
	16 33¼	14 20	12 6½			☉'s U. L.	
	47 32¼	6 45 34	43 37	70 40 0		☉'s L. L.	
		47 59	46 03			☉'s U. L.	
♃ —— 28.	25 01	23 27 10½	29 19	55 40 0		☉'s U. L.	Eaſterly.
	27 40	29 50	31 59½			☉'s L. L.	
♀ —— 29.					2 34 03,57		
	40 14	5 38 03	35 53	55 40 0		☉'s L. L.	Weſterly.
	42 52	40 46	38 36			☉'s U. L.	
	46 38	22 48 42½	50 43	64 20 0		☉'s U. L.	Eaſterly.
		51 12½	53 14½			☉'s L. L.	
	9 34¼	0 11 58¼	14 20¼	47 40 0		☉'s U. L.	
	12 31½	0 14 55¼	17 20¼			☉'s L. L.	
♄ —— 30.					2 36 28,90		
	0 6½	4 57 42	55 18	47 40 0		☉'s L. L.	Weſterly.
	03 5	5 0 40	58 17½			☉'s U. L.	
	23 34	6 21 32	19 30	64 20 0		☉'s L. L.	
	26 06½	24 04	22 0½			☉'s U. L.	
	54 17½	23 56 36	58 53	51 0 0		☉'s U. L.	Eaſterly.
	57 06	59 25	1 41½			☉'s L. L.	

Observations made on Point Venus, in Otaheite, Continued

1771	Equal Altitudes Time by the Clock B — Lower Wire	Middle Wire	Upper Wire	Zenith Distances	Time of apparent Noon by the Clock	Phenomena and Remarks
		H		° ′ ″	H	
☉ May 1					2 37 54,68	
	18 28½	5 16 12	13 54	51 0 0		☉'s L L } Westerly
	21 18½	19 1	16 44¼			☉'s U L
☽ — 2	47 11½	23 49 28½	51 43	53 40 0		☉'s U L } Easterly
	49 59	52 14½	54 29			☉'s L L
♂ — 3					2 42 46,73	
	35 21½	5 33 06	30 51	53 40 0		☉'s L L } Westerly
	38 08	35 53½	33 39			☉'s U L
	54 51	22 56 56	59 0	65 0 0		☉'s U L } Easterly
	57 26	59 30	1 33			☉'s L L
	33 37½	23 35 48½	37 59	57 0 0		☉'s U L
	36 19	38 30	40 42			☉'s L L
☿ — 4					2 45 14,18	
	53 56	5 51 44	49 32	57 0 0		☉'s L L } Westerly
	56 38	54 25	52 14			☉'s U L
	32 53	6 30 46½		65 0 0		☉'s L L
	35 25	33 21	31 18			☉'s U L
♃ — 5	38 29	23 40 41	42 52¼	57 20 0		☉'s U L } Easterly
	41 11½	43 24	45 36			☉'s L L
	48 37	23 50 52½	53 7	55 20 0		☉'s U L
	51 23	53 38½	55 54			☉'s L L
♀ — 6					2 50 10,05	
	48 43½	5 46 28½	44 14¼	55 20 0		☉'s L L } Westerly
	51 29½	49 14	47 0			☉'s U L
	58 56	5 56 43½	54 31	57 20 0		☉'s L L
	1 39	59 27½	57 14¼			☉'s U L
	0 59½	23 3 6	5 10	65 40 0		☉'s U L } Easterly
	3 35½	5 40½	7 44			☉'s L L
	45 8	23 47 22	49 35	56 40 0		☉'s U L
	47 51½	50 06	52 20			☉'s L L
♄ — 7					2 52 39,15	
	57 13	5 55 0		56 40 0		☉'s L L } Westerly
	59 58½	57 45½	55 32			☉'s U L
	41 31½	6	37 20¼	65 40 0		☉'s L L
		6 42 0	39 56			☉'s U L.
		23 27 15½		61 20 0		☉'s U L } Easterly
	27 44					☉'s L L
	31 41	23 33 52½	36 02	60 0 0		☉'s U L
	34 21	36 32½	38 40¼			☉'s L L
☉ — 8					2 55 08,38	
	15 44	6 13 32½	11 22	60 0 0		☉'s L L } Westerly
	18 24	16 14½	14 04			☉'s U L

Observations made on Point Venus, in Otaheite, Continued.

1774.	Equal Altitudes, Times by the Clock B. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Distance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.
☉ May 8.	22 18¾	6 22 48½		61 20 0		☉'s L. L. ☉'s U. L. Westerly.
	38 13½	23 40 25	42 34	59 20 0		☉'s U. L. Easterly.
	40 54½	43 6	45 18			☉'s L. L.
	51 44½	23 53 58	56 13	56 40 0		☉'s U. L.
	54 29	56 44	59 0			☉'s L. L.
☽ —— 9.					2 57 39,25	
	0 37	5 58 22	56 6½	56 40 0		☉'s L. L. Westerly.
	3 23	6 1 9	58 55			☉'s U. L.
	14 11½:	6 11 59	9 49	59 20 0		☉'s L. L.
	16 53		12 31½			☉'s U. L.

1774.	Equal Altitudes, Times by the Watch K. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Distance. ° ′ ″	Time of apparent Noon by the Watch. H ′ ″	Phenomena and Remarks.
♀ April 22.	33 33	8 35 53½	38 16½	45 0 0		☉'s U. L. Easterly.
	36 26	38 50½	41 13			☉'s L. L.
♄ —— 23.					10 53 34,72	
	10 32½	13 8 11	5 49	45 0 0		☉'s L. L. Westerly.
	13 26½	11 5	8 45			☉'s U. L.
☽ —— 25.	12 20	8 14 34½	16 49	49 40 0		☉'s U. L. Easterly.
	15 05	17 20½	19 36			☉'s L. L.
♂ —— 26.					10 53 39,55	
	32 0	13 29 45	27 28½	49 40 0		☉'s L. L. Westerly.
	34 47	32 32	30 17			☉'s U. L.
♃ —— 28.	45 2½	7 47 12	49 20	55 40 0		☉'s U. L. Easterly.
	47 41½	49 51	52 0½			☉'s L. L.
♀ —— 29.					10 53 46,57	
	59 39½	13 57 29	55 18½	55 40 0		☉'s L. L. Westerly.
	2 17	14 0 10	58 01			☉'s U. L.
	4 22½	7 6 27	8 27½	64 20 0		☉'s U. L. Easterly.
		8 57	10 58			☉'s L. L.
♄ —— 30.					10 53 51,15	
	40 34	14 38 33	36 30	64 20 0		☉'s L. L. Westerly.
	43 7	41 04	39 01½			☉'s U. L.
	10 32½	8 12 51	15 08	51 0 0		☉'s U. L. Easterly.
	13 21	15 38	17 55½			☉'s L. L.
☉ May 1.					10 53 53,68	
	34 12	13 31 55	29 38	51 0 0		☉'s L. L. Westerly.
	37 2	34 44	32 28½			☉'s U. L.

Obfervations made on Point Venus, in Otaheite, Continued

1774	Equal Altitudes Times by the Watch K Lower Wire	Middle Wire	Upper Wire	Zenith Diftance	Time of apparent Noon by the Watch	Phenomena and Remarks
		H	′	°	H	
♂ May 3	4 7	7 6 12	8 15	65 0 0		☉'s U L
	6 41	8 45	10 48			☉'s L L
	42 49½	7 45 0½	47 11	57 0 0		☉'s U L
	45 31	47 42	49 54			☉'s L L Eafterly
☿ —— 4					10 54 7,56	
	2 31	14 0 19	58 08	57 0 0		☉'s L L
	5 13	3 0	0 49			☉'s U L
	41 24	14 39 18½		65 0 0		☉'s L L
	43 55	41 51½	39 49			☉'s U L Wefterly
♃ —— 5	42 56½	7 45 8	47 19	57 20 0		☉'s U L
	45 38½	47 50½	50 03			☉'s L L
	53 3	7 55 19	57 33	55 20 0		☉'s U L
	55 49	58 04	0 19			☉'s L L Eafterly
♀ —— 6					10 54 18,87	
	52 34½	13 50 20	48 6	55 20 0		☉'s L L
	55 20	53 5½	50 51			☉'s U L
	2 46	14 0 33½	58 21	57 20 0		☉'s L L
	5 28½	3 17½	1 4			☉'s U L Wefterly
	47 12	7 49 25	51 38	56 40 0		☉'s U L
	49 55	52 9	54 25			☉'s L L Eafterly
♄ —— 7					10 54 24,69	
	58 40½	13 56 27		56 40 0		☉'s L L
	1 25	59 12	56 59			☉'s U L Wefterly
	31 26	7 33 36	35 46	60 0 0		☉'s U L
	34 5	36 16	38 27			☉'s L L Eafterly
☉ —— 8					10 54 33,19	
	14 48½	14 12 37	10 27	60 0 0		☉'s L L
	17 28	15 19	13 8			☉'s U L Wefterly
		7 37 45	39 54	59 20 0		☉'s U L
	38 14½	40 26	42 37½			☉'s L L
	49 03½	7 51 17	53 31½	56 40 0		☉'s U L
	51 47½	54 2	56 18½			☉'s L L Eafterly
☽ —— 9					10 54 39,74	
	57 19½	13 55 5	52 49½	56 40 0		☉'s L L
	0 5	57 51	55 38			☉'s U L
	10 53½	14 8 40	6 29½	59 20 0		☉'s L L
	13 34		9 12			☉'s U L Wefterly

The Clock was fixed up in the ufual manner, and the pendulum, in general, while here, vibrated 1° 35 each way from the perpendicular

Obſervations made at Point Venus, in Otaheite, Continued.

1774.	Meridian Zenith Diſtances. Interior Arch. ° ′ ″	Exterior Arch. G. S. V.	+″	Exterior Arch reduced. ° ′ ″	Barom. Inches.	Thermom. In Tent	Thermom. Out.	Phenomena and Remarks.
☿ May 4.	33 6 25	35 1 9	5	33 6 51	30,03	88½	93	☉'s U. L.
	33 38 20	35 3 17	9	33 38 33				☉'s L. L.
♃ —— 5.	33 56 7	36 0 26	24	33 56 49½	30,02	87¼	94¼	☉'s L. L.
	33 23 28	35 2 15	13	32 23 41				☉'s U. L.
	39 55 40	42 2 12	18	39 56 12	30,02	72	72½	α Pavonis.
	61 56 30	66 0 9	16	61 56 43				α Cygni.
♀ —— 6.	33 40 25	35 3 21	20	33 40 30	30,02	90	97	☉'s U. L.
	34 12 15	36 1 30	12	34 12 27				☉'s L. L.
	39 55 55	42 2 13	4	39 56 24	30,03	71½	72½	α Pavonis.
	61 56 37	66 0 10	0	61 56 54				α Cygni.
♄ —— 7.	34 29 38	36 3 6	15	34 30 4	30,03	88½	91½	☉'s L. L.
	33 57 8	36 0 28	20	33 57 38				☉'s U. L.
	61 17 7	54 2 27	12	51 17 29½	30,03	80¼	81	β Navis.
	30 32 52	32 2 11	18	30 33 15½	30,03	78	79½	Regulus.
	39 55 57	42 2 13	10	39 56 30	30,03	69½	70½	α Pavonis.
	61 56 45	66 0 10	8	61 57 2				α Cygni.
☽ —— 9.	34 30 0	36 3 7	5	34 30 21	30,03	84	91	☉'s U. L.
	35 02 22½	37 1 16	20	35 2 40½				☉'s L. L.
	51 17 25	54 2 28	7	51 18 2½	30,03	76½	77¼	β Navis.
	30 32 42	32 2 11	8	30 33 5½	30,03	75	76	Regulus.
	38 27 15	41 0 3	10	38 27 44				γ Leonis.
	8 24 55	8 3 29	25	8 25 21	30,03	73	72¼	Antares.
♂ —— 10.	30 32 37	32 2 10	12	30 32 43	30,03	73¼	77½	Regulus.
	38 27 12	41 0 3	15	38 27 49				γ Leonis.

For the Error of the Line of Collimation of the Quadrant.

1774.	Zenith Diſtance of the Upper Hole. Quadrant direct. Interior Arch. ° ′ ″	Exterior Arch. G. S. V.	″+	Zenith Diſtance of the Lower Hole. Quadrant inverted. Interior Arch. ° ′ ″	Exterior Arch. G. S. V.	″+	Errors. Interior Arch. ″	Errors. Exter. Arch. V. ″
May 3. Evening.	89 36 28	95 2 11	5	90 24 12	96 1 23	15	—16½	—1 4½
	32	11	3	0	23	4		
	25	10	20	0	23	3		
	30	11	6	04	23	7		
Morning.	89 35 55	95 2 9	15	90 25 12	96 1 25	0	—24⅙	—1 8
	50	9	10	25 5	25	12		
	50	9	8	25 5	25	20		
	48	9	10	25 0	25	10		
	40	9	5	24 55	25	0		
	45	9	7	24 55	26	0		

Obſervations made on Point Venus, in Otaheite, Continued

For the Error of the Line of Collimation of the Quadrant

1773		Zenith Diſtance of the Upper Hole Quadrant direct. Interior Arch. ° ′ ″	Exterior Arch G S V	+′	Zenith Diſtance of the Lower Hole. Quadrant inverted Interior Arch ″	Exterior Arch G S V	+″	Errors Interior Arch ″	Errors Exter Arch V ′	
May 10	Evening	89 35 50	95 2 10	0	90 24 48	96 1 24	18			
		36 5	9	25	24 52	24	22			
		36 10	10	5	24 55	25	0	—25½	—1 10	
		36 0	10	8	24 50	24	18			
		35 52	9	23						
	Morning	89 39 5	95 2 17	0	90 21 30	96 1 17	6			
		39 5	17	3	35	18	0			
		39 0	16	18	40	17	22			
		39 10	16	25	35	17	10	—20	—1 6	
		39 0	16	20	45	17	20			
		38 55	16	18	40	17	12	—21″½	—33″	Mean

The Latitude of Point Venus, determined by Obſervations made with Hadley's Quadrant

1774.	Altitude of ☉'s L L ° ′	Declination ° ′ ″	Latitude S ° ′ ″
♄ April 23	59 30½	12 26 54 N	17 30 41
☉ —— 24	59 11¼	12 46 48	29 47
♂ —— 26	58 51⅓	13 25 59	30 46
☿ —— 27	58 32⅓	13 45 14	30 31
♀ —— 29	57 54⅞	14 23 24	29 16
♄ —— 30	57 36¾	14 41 38	29 4
☉ May 1	57 18¼	14 59 58	28 59
☽ —— 2	57 01	15 18 2	28 9
♂ —— 3	56 42¾	15 35 52	29 48
☉ —— 8	55 17	17 1 6½	30 5
♂ —— 10	54 46½	17 33 16	28 20
		The mean of all is	17 29 35

For the Dip of the Needle's South End

Face of the Inſtrument East ° ′	Face of the Inſtrument West ° ′	Face of the Inſtrument East ° ′	Face of the Inſtrument West ° ′
31 10	31 05	31 0	27 50
31 10	29 45	28 30	27 40
31 30	30 25	28 40	27 45
30 45	33 0	31 0	28 10
30 30	33 0	29 47⅛	27 51⅞
30 10	31 0	27 51⅞	
30 40	32 10	30 46⅛	
30 10	31 40	31 30⅝	
30 45⅝	31 30⅝	29 58¾	Mean Dip

⁂ The poles were changed between the Obſervations put down in the two firſt, and thoſe put down in the two laſt columns.

Obſervations at Point Venus, in Otaheite, Continued.

Lunar Obſervations for the Longitude of the Place.

1774.	Time by the Clock. H ′ ″	Apparent Time. H ′ ″	Zenith Diſtance of the ☉ or ✱. ° ′	Altitude, or Zenith Diſtance of the ☽. ° ′	Diſtance of the ☽'s L. from the ☉ or ✱. ° ′	Barom.	Therm.	Longitude Eaſt. ° ′ ″	Remarks, &c.
☽ April 25.	12 39 33			18 11⅛ U. L.	53 55¾				
	41 51			17 41 7/12	53 56				
	44 31		49 01⅛	17 14⅛	53 57	30,05	72½	210 54 06	☽ and Regulus, weſt of her.
	46 31			16 56⅓	53 58¼				
	50 02			16 19	53 59¼				
	52 52			15 47	54 0				
				— 21″½	— 2′ 36″	Error of the Quadrants.			
	13 10 35			13 23¾	46 23				
	13 16			13 04	23				
	16 41		44 57 7/12	12 39¾	22	30,05	72½	210 11 15	☽ and Antares, eaſt of her.
	21 1			12 16½	20½				
	23 7			12 11⅓	18½				
	26 41			11 57⅓	17½				
♂ —— 26.	11 55 54			37 59⅛ U. L.	68 19½				
	11 58 32			37 22½	20¾				
	12 0 43		41 14⅙	36 52⅝	22	30,07	73½	211 05 0	☽ and Regulus, weſt of her.
	12 02 41			36 25	22¼				
	12 04 21			36 01⅛	23				
	12 06 24			35 32¼	23½				
				— 21″½	+ 2′ 35″	Errors of the Quadrants.			
	12 16 08			33 18½	31 52				
	18 56			32 39½	51				
	20 22		57 28⅙	32 20	50½	30,07	73½	210 29 15	☽ and Antares, eaſt of her.
	22 05			31 56½	49½				
	23 56			31 31 1/12	49				
	27 56			30 35 7/12	47½				
☿ —— 27.	11 40 44			54 59¾ L. L.	30 31¼				
	43 01		25 37½	54 29¼	32¼	30,08	77	210 4 9	☽ and Spica ♍, weſt of her.
	45 02			54 0 1/12	33¼				
	46 25			53 41¼	34¼				
				— 21″½	+ 2′ 39″	Errors of the Quadrants.			
	15 9 28	12 38 53,4	γ ♎ Immerged behind the ☽'s bright Limb.						Very certain.
♀ —— 29.	22 31 54		67 55⅜ U. L.	23 12 U. L.	133 25				
	33 46		67 31	22 53	24½				
	36 0		67 02 1/12	22 23	23½	30,02	81	210 40 7½	☉ and ☽ by the back obſervation.
	37 55		66 37⅛	21 53	22¼				
	39 44		66 14	21 31	21¼				
			—21″½	+ 1′ 2″	+ 1′ 8″	Errors of the Quadrants.			
♄ —— 30.	19 8 54			6 05½ U. L.	33 29				
	10 58			6 31	29				
	12 29			6 51¼	30				
	14 4			7 13	30½				
	15 26		41 3⅙	7 33	30½	30,02	76½	210 3 45	☽ and Antares, weſt of her.
	16 49			7 51¼	31½				
	18 18			8 11⅕	31½				
	19 43			8 30½	32¼				
	21 15			8 52	32¼				
				— 21″½	+ 2′ 50″	Errors of the Quadrants.			

Observations made at Point Venus, in Otaheite, Continued

Lunar Observations for the Longitude of the Place

1774	Time by the Clock H ′ ″	Apparent Time H ′	Zenith Distance of the ☉ or * °	Altitude or Zenith Distance of the ☽ °	Distance of the ☽'s L. from the ☉ or *	Barom.	Therm.	Longitude W.	Remark
♄ April 30	19 24 47			9 41 U L	70 47				
	26 43			10 08	46				
	28 08			10 37¾	45½				
	29 21			10 45⅞	45				
	30 46			11 5	45				
	32 25		59 53¾	11 27	44	30 02	76	210 17 56	☽ and [illegible] east of her
	34 4			11 50½	44				
	36 30			12 24½	43				
	38 13			12 40½	42½				
	39 53			13 12¼	41½				
	21 12 0		72 42⅝ U L	41 47 U L	119 49¼				
	14 5		72 15¼	41 17	49	30,03	79	210 8	☉ and ☽
	15 25		71 58½	40 57	48				
	16 26		71 44⅞	40 45	48				
			− 21 ½	+ 1 32	+ 2 50′	Errors of the Quadrants			
	22 21 24		70 39½ U L	39 38 U L	45				
	22 33		70 24⅞	39 18	44				
	23 35		70 10⅞	39 7	44¾	30 03	79	210 11 15	☉ and ☽ Errors as above
	24 35		69 58	38 53	44				
	26 14		69 16½	38 29	44				
☉ May 1	22 8 13		74 11⅛ L L	56 24	106 21				
	10 53		73 35	55 50	20				
	12 27		73 16	55 27	19¼				
	14 02		72 55	55 5	18¾				
	15 50		72 31½	54 42	17¼				
	17 40		72 7	54 17	17	30,04	79	209 44 15	☉ and ☽
	19 19		71 45⅞	53 52	16½				
	20 51		71 25⅞	53 27	16¼				
	22 46		71 0⅟₁₂	53 4	15¾				
	24 30		70 37¾	52 39	15				
			− 21 ½	+ 4 37	+ 2 45	Errors of the Quadrants			
☽ —— 2	19 7 41			22 15½ L L	61 30				
	10 15			21 40¼	30¾				
	11 48			21 17¾	31¼				
	13 37			20 52¼	32				
	15 43			20 22	32¾				
	17 26		42 0¾	20 0	33½	30,04	74	210 18 30	☽ and Antares west of her
	20 0			19 34	33½				
	21 56			18 57	34½				
	24 5			18 26	35				
	25 53			18 2	35¾				
				− 21	+ 2 20	Errors of the Quadrants			
	22 33 56		69 47¾ L L	63 43½ U L	93 01				
	37 39		68 59¾	62 48½	93 0				
	40 19		68 25¼	62 12¼	92 59	30 04	82	209 45 18	☽ and ☉
	43 16		67 48	61 32	92 57¾				
	46 1		67 12	60 53¼	92 57¾				
			− 21 ½	+ 1 0	+ 2 45	Errors of the Quadrants			

Obſervations made on Point Venus, in Otaheite, Continued.

Lunar Obſervations for the Longitude of the Place.

1774.	Time by the Clock. H ′ ″	Apparent Time. H ′ ″	Zenith Diſtance of the ☉ or *. ° ′	Altitude, or Zenith Diſtance of the ☽. ° ′	Diſtance of ☽'s L. from ☉ or *. ° ′	Barom.	Therm.	Longitude Eaſt. ° ′ ″	Remarks.
♂ May 3.	19 38 21			28 44½ L. L.	75 21½				
	42 51			27 41½	22¼				
	45 27			27 5⅛	23½				
	47 29			26 38½	24¾				
	49 30			26 9½	25¼				
	51 38		49 47 7/12	25 40	25½	30,04	73	210 23 54	☽ and Antares, Weſt of her.
	53 24			25 15¼	26				
	55 20			24 49½	26¾				
	57 10			24 24¾	27½				
	58 53			24 0	28⅙				
				− 21″½	+ 2′ 54″	Errors of the Quadrant.			
	23 45 07		55 08⅓ U. L.	59 23 U. L.	79 46¾				
	46 52		54 47½	59 03	46½				
	48 18		54 32 7/12	58 44	45⅚	30,02	82	209 38 15	☉ and ☽.
	49 37		54 15⅝	58 23	45				
	50 52		54 01 7/12	58 05	44½				
	52 08		53 46⅔	57 47	44¾				
			− 21″½	+ 3′ 0″	+ 2′ 48″¼	Errors of the Quadrant.			
☿ —— 4.	20 20 55			32 11⅓ L. L.	88 57¼				
	23 0			31 44	88 58				
	24 24			31 26	88 58¾				
	25 35			31 8	88 59¼				
	26 53		58 32⅙	30 51½	89 0	30,03	76	210 21 45	☽ and Antares, Weſt of her.
	28 17			30 33	89 0¼				
	29 43			30 14	89 0½				
	30 55			29 57¾	89 01¼				
	32 15			29 39	89 01½				
	33 43			29 19	89 02				
				− 21″½	+ 2′ 37″½	Errors of the Quadrant.			
	23 56 12½		53 38⅓ U. L.	67 37 U. L.	67 11¼				
	23 58 41		53 10¼	66 55¼	67 10½				
	0 0 40		52 48	66 25½	67 9¼	30,03	84½	210 18 0	☉ and ☽.
	0 1 37		52 26¾	66 01½	67 9				
	0 4 42		52 01¼	65 37	67 8⅓				
			− 21″½	+ 3′ 0″	+ 2′ 33″½				
♃ —— 5	19 25 14				55 33¾				
	28 3				35¼				
	30 5				35½				
	32 3				36				
	33 50		25 47⅔	56 31½	37	30,02	72	210 55 0	☽ and α Aquilæ, Weſt of her.
	35 30				37¼				
	37 15				38				
	39 18				38½				
	40 52				39½				
	42 34				39¾				
					+ 2′ 45″	Errors of the Quadrant.			
	0 12 50		51 8½ U. L.	71 38 U. L.	54 52				
	15 36		50 39½	71 6	51½				
	17 25		50 19½	70 47	50⅛	30,02	84	209 42 20	☉ and ☽.
	19 23		49 56⅙	70 27	50				
	21 30		49 34	70 9½	50				
	23 27		49 14	69 45	40⅔				
			− 21″½	+ 4′ 34″	+ 2′ 47″	Errors of the Quadrant.			

Obſervations on Point Venus, in Otaheite, Continued

Lunar Obſervations for the Longitude of the Place

1774	Time by the Clock H ′ ″	Apparent Time. H ″	Zenith Diſtance of the ☉ or * ′	Altitude, or Zenith Diſtance of the ☽ °	Diſtance of the ☽'s L from ☉ or * ′	Barom	Therm	Longitude Eaſt	Remarks
♀ May 6,	19 47 27			65 21½ L. L.	66 58				
	49 25			64 55	66 58½				
	50 43			64 36½	66 59½				
	51 57		26 01⅓	64 20	67 0¼	30,03	72⅓	210 43 0	☽ and α Aquilæ, Weſt of her
	53 5			64 04½	67 0¾				
	54 9			63 49½	67 1				
	55 19			63 33½	67 1¼				
	20 15 31			58 58¾	67 8				
	16 45			58 40½	8½				
	18 14		27 42¼	58 20¼	9	30,03	72⅓	210 48 27	☽ and α Aquilæ, Weſt of her
	19 5			58 10	9¼				
	20 1			57 56	10				
	21 0			57 42	10¾				
				− 21 ½	+ 2 19	Errors of the Quadrant			
	0 9 54		52 20 U L	72 0 L L	42 55¼				
	12 9		51 53⅓	72 02	54¾				
	13 30		51 40¼	72 0	54				
	15 14		51 21	71 58	53¾				
	16 35		51 05⅓	71 55	54				
	17 54		50 58	71 49½	53½	30,03	86½	209 59 0	☉ and ☽
	19 3		50 38	71 46	53				
	20 23		50 24½	71 42	52½				
	21 54		50 7	71 38	51¾				
	23 5		49 55	71 36	51½				
			− 21 ½	+ 3 0	+ 2 17	Errors of the Quadrant.			
♄ — 7	20 39 30			65 52¼ L L.	78 37				
	40 35			65 38	38				
	41 36			65 24½	38				
	42 40		30 31½	65 9⅓	38¼	30 03	71	211 0 0	☽ and α Aquilæ, Weſt of her
	43 36			64 57	38¼				
	44 40			64 43	38¾				
				− 21″½	+ 2 57	Errors of the Quadrant.			

In the preceding Obſervations, where the objects are the Moon and a Star, the Star's true zenith diſtance is put down as it was computed; and the Moon's zenith diſtance was obſerved with the Aſtronomical Quadrant, except in the Obſervations of the Moon's diſtance from α Aquilæ, on May 5th, where both zenith diſtances are computed. Where the objects are the Moon and Sun, the Sun's zenith diſtance was obſerved with the Aſtronomical Quadrant, and the Moon's altitude with a Hadley's Sextant. In every inſtance, the true time was got from that ſhewn by the Clock.

Obſervations on Point Venus, in Otaheite, Continued

Obſervations for the Variation of the Compaſs

1774.	Zenith Diſtance of the ☉'s L ′ ″	Azimuth of the ☉'s center ° ′	Variation Eaſt ° ′
♂ April 26	73 24 40 U L	N 64 37½ E	
	72 36 45	63 47½	5 15⅓
	71 55 35	63 10	
♃ —— 28	74 55 20	N 64 12½ E	
	73 56 55	63 22½	5 26
	73 17 40	63 17½	
♀ —— 29	75 9 8 L L	N 74 40 W	
	75 47 7	74 52½	5 29⅙
	76 24 8	75 12½	
	79 40 40	N 64 55 E	
	78 44 50	64 30	6 0⅓
	78 25 0	64 15	
	75 55 30 U L.	N 64 0 E	
	39 25	63 25	5 48⅙
	21 05	63 15	
♄ —— 30.	78 26 50 L. L	N 75 40 W	
	79 20 12	76 0	5 26⅔
	79 51 58	76 25	
	80 48 30 U L.	N 65 15 E.	
	80 13 30	65 10	5 49⅙
	79 43 30	65 02½	
☉ May 1	76 14 55 U L	N 75 20 W	
	76 40 5	75 15	5 57¼
	77 8 30	75 25	
	80 29 35 L I	N 64 37 E	
	79 53 0	64 25	5 49¼
	79 15 20	64 20	

1774.	Zenith Diſtance of the ☉'s L ′ ″	Azimuth of the ☉'s center	Variation Eaſt. ° ′
☽ May 2	81 27 10 L L.	N 64 40 E	
	81 11 25	64 30	6 10¼
	80 31 5	64 10	
☿ —— 4	85 2 55 U L	N 77 40 W	
	85 34 30	77 47½	5 57½
	86 5 17	78 5	
♀ —— 6	76 11 30 U L	N 61 50 E	
	75 45 55	61 40	5 23¾
	75 19 30	61 15	
♄ —— 7	83 26 30 L L.	N 75 45 W	
	84 2 38	76 0	5 48
	84 29 40	76 17½	
	82 43 0 L L.	N 62 25 E	
	81 56 0	63 0	6 25⅙
	80 55 55	62 50	
	Altit. ☉'s L L.		
☽ —— 9	3 6 15	N 76 30 W	
	2 33 45	76 30	5 34⅙
	2 8 30	76 40	
	7 33 30	N 74 50 W	
	7 4 0	75 10	6 10½
	6 35 30	75 22½	

1774	Time of apparent Noon by Clock H ″	Syderial Time of apparent Noon H	Clock before Syderial Time ″	Clock loſes on Syderial Time ″
♄ April 23	2 19 43 8	2 2 15 76	17 28,13	
♂ —— 26	2 26 55 03	2 13 31 18	13 23 85	1 21 43
☿ —— 27	2 29 19,91	2 17 17 39	12 2 52	1 21 33
♀ —— 29	2 34 03 57	2 24 51 21	9 12 36	1 25 08
♄ —— 30.	2 36 28 90	2 28 38 91	7 49 99	1 22 37
☉ May 1	2 37 54,68	2 32 27 21	5 27 47	2 * 22 52
♂ —— 3	2 42 46 73	2 40 05 42	2 41 31	1 23 08
☿ —— 4	2 45 14 18	2 43 55 37	1 18 81	1 22 5c
			Clock ſlow	1 22,91
♀ —— 6	2 50 10,05	2 51 37 07	1 27 02	
♄ —— 7	2 52 39 15	2 55 28 7h	2 49 63	1 22 61
☉ —— 8	2 55 08 38	2 59 21 0	4 12 69	1 23 01
☽ —— 9	2 57 39 25	3 3 13 9,	5 34,72	1 22 03
	Mean (rejecting the 30th of April) is			1 22 64

As I had reaſon when I went on ſhore at this place, to think I ſhould not ſtay above two or three days, the Clock was firſt ſet up in the ſhip's tent; but on the 28th of April, finding that I was likely to ſtay longer, and that the Clock was liable to be diſturbed, I removed the ſhip's tent, and erected the Obſervatory over the Clock as it ſtood

* The Clock ſeems here to have ſtopped exactly one minute I know not how to account for it, as I never left either the caſe or face of the Clock unlocked.

By taking the firſt and laſt day's Obſervations, the Clock's loſs is 1 22″,68

Obſervations on Point Venus, in Otaheite, Continued

Obſervations on the Tides

the reef is not only of much greater extent, and of courſe the quantity of water thrown over greater, but alſo as there is only one opening, inſtead of two, for the diſcharge of the water that is thrown over I may add likewiſe that the ſurf is, from whatever cauſe it may happen, generally much greater at Ulietea than at Otaheite It is moreover evident, that if this be the cauſe, the Tides will be more ſenſible in or near the openings than farther within the reef and ſo it appears to be from the Obſervations for Captain Cook and Mr Green tried them at the point A in the Map, and had only 10 or 12 inches at the Spring tides Mr Bayley and myſelf tried them at the point B, and had 14 or 15 inches, a day or two before the change and laſtly, I ſounded acroſs from the Obſervatory to the rock marked C in the Map, at high water and had between ſeven and eight feet water, and yet many of our people walked acroſs it at low water to gather ſhells on the rock

Theſe were all the Experiments I was able to make for elucidating this affair, although I landed on Point Venus the ſecond time, with a determined reſolution to make ſome Experiments that might be deciſive But, after examining the coaſt both ways, as far as my other buſineſs would permit me to go, I found no place which was not ſheltered by the reef in the ſame manner that Point Venus is, and of courſe liable to the ſame objections, or on which a ſurf did not break ſo great as to render it totally impoſſible to make any obſervations that would turn to the leaſt account

On the whole, I give it as my opinion, from the fulleſt conviction that the matter would allow of, that the abſolute height of the Tides is the ſame as it is in other parts of this widely extended ocean, viz about three feet at the higheſt Spring tides, and about two feet at the neaps

Obſervations on the Tides at Ohamaneno Harbour, in the Iſland of Ulietea

1774		Apparent Time		Height of the Tides		Remarks
		H	M	F	I	
☿	May 25	23	10	——		High Water
♃	—— 26	0	0	0	$8\frac{1}{4}$	High Water
♀	—— 27	19	0	——		Low Water
♄	—— 28	1	0	0	$7\frac{3}{4}$	High Water
		20	30	——		Low Water
☉	—— 29	1	55	0	$7\frac{1}{8}$	High Water
		21	0	——		Low Water
☽	—— 30	2	30	0	$7\frac{1}{2}$	High Water
		21	30			Low Water
♂	—— 31	3	30	0	$7\frac{1}{2}$	High Water

The times of high and low water muſt not be too much relied on as the ſmall, and very ſlow riſe of the water rendered it impoſſible to determine them with any accuracy But the different heights of the water admitted of the moſt exact determination the water having not the leaſt motion at any time, ſo that one eighth of an inch was very diſcernible, and I am fully perſuaded, from thence, that none of the numbers in the third column can err one-fourth of an inch

Obſervations at the Iſland of Tanna, one of the New Hebrides.

1774.	Equal Altitudes. Times by the Watch K. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diſtances.	Time of apparent Noon by the Watch.	Phenomena and Remarks.
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
♄ Auguſt 6.	43 36	9 46 16¼	48 57	48 0 0		☉'s U. L. Eaſterly.
	46 52	49 33½	52 16½			☉'s L. L.
☉ —— 7.					11 56 48,2	
	6 58¼	14 4 16	1 34:	48 0 0		☉'s L. L. Weſterly.
	10 12½	7 34	4 55			☉'s U. L.
☿ —— 10.	———	9 6 24½	8 43	54 20 0		☉'s U. L. Eaſterly.
	6 54	9 13	11 32½			☉'s L. L.
	12 54:	9 15 17½	17 39:	52 40 0		☉'s U. L.
	15 48:	18 10	20 31¼			☉'s L. L.
♃ —— 11.					11 57 8,16	
	38 40½	14 ———	33 56	52 40 0		☉'s L. L. Weſterly.
	41 35	14 39 12	36 51½			☉'s U. L.
	47 36½	14 45 17	42 59	54 20 0		☉'s L. L.
	———	48 8	45 49½			☉'s U. L.
	41 48	9 44 23	46 58	47 20 0		☉'s U. L. Eaſterly.
	44 56	———	50 9			☉'s L. L.
♀ —— 12.					11 57 13,42	
	———	14 7 5½	———	47 20 0		☉'s L. L. Weſterly.
	12 54	———	7 42			☉'s U. L.
☉ —— 14.	———	9 27 33	30 0	49 40 0		☉'s U. L. Eaſterly.
	28 5	9 30 31	———			☉'s L. L.
	36 17:	9 38 50	———	47 40 0		☉'s U. L.
	39 21	———	44 25			☉'s L. L.
☽ —— 15.					11 57 23,29	
	15 40	14 13 08	10 39½	47 40 0		☉'s L. L. Weſterly.
	18 41	16 14	13 44½			☉'s U. L.
	26 55	14 24 29	22 4	49 40 0		☉'s L. L.
	29 50	27 24	25 2			☉'s U. L.
♂ —— 16.	8 54	9 11 10	13 27	52 20 0		☉'s U. L. Eaſterly.
	11 40	13 58	16 15			☉'s L. L.
	17 38	9 19 58	21 17	50 40 0		☉'s U. L.
	20 29	22 49	25 10			☉'s L. L.
☿ —— 17.					11 57 27,58	
	34 40	14 32 19½	30 0	50 40 0		☉'s L. L. Weſterly.
	37 31	35 11	32 53			☉'s U. L.
	43 29½	14 41 11	38 53½	52 20 0		☉'s L. L.
	46 16	44 0	41 44			☉'s U. L.
♃ —— 18.	12 4	9 14 21	16 37	51 20 0		☉'s U. L. Eaſterly.
	14 51	17 8	19 26			☉'s L. L.
♀ —— 19.					11 57 31,72	
	40 27	14 38 10	———	51 20 0		☉'s E. L. Weſterly.
	43 13¼	40 56	38 41½			☉'s U. L.

Obſervations at the Iſland of Tanna, one of the New Hebrides, Continued

Obſervations for the Variation of the Compaſs

1774	Time by the Watch K H ' "	Azimuth of the ☉'s Center ° '	Variation East ° '
☽ August 8	6 41 17	N 65 10 E	6 7
	43 1	65 0	
	44 51½	64 30	
	46 42	64 35	
♂ —— 9	16 43 40½	N 75 55 W	6 49½
	44 52½	75 25	
	46 10	74 55	
	47 11½	75 52½	
☉ —— 14	7 48 18	N 58 0 E	8 4½
	48 37	57 40	
	48 56	58 0	
☽ —— 15	6 42 18	N 65 45 E	7 35½
	44 45	65 40	
	45 26	64 35	
♃ —— 18	6 44 5	N 66 0 E	7 34½
	45 13	66 02½	
	46 40½	66 25	

Obſervations for the Dip of the Needle

1774	Face of the Inſtrument. East ° '	West ° '
☉ August 7	44 25	45 05
	43 05	46 30
	Changed the Poles	
	42 45	45 50
	44 0	46 30
	Changed the Poles	
	44 45	46 30
	44 35	44 20
	44 30	45 25
☿ —— 17	44 40	45 50
	45 0	43 10
	Changed the Poles	
	46 05	44 30
	44 15	43 45
	44 55	43 05
	Changed the Poles.	
	45 25	45 35
	46 10	46 40
	Changed the Poles	
	45 45	45 10
	46 45	45 0
	45 15	45 50
Mean	45 02½	Dip of the Needle's S end

Observations at the Island of Tanna, one of the New Hebrides, Continued.

Lunar Observations for the Longitude.

1774.	Time by the Watch K. H ′ ″	Apparent Time. H ′ ″	Zenith Distance of the ☽'s U. L. ° ′	Distance of the ☽'s L. from ☉ or ✱. ° ′	Error of the Quadrant. ′ ″	Longitude East. ° ′ ″	Remarks.
☽ Aug. 15.	14 40 22½		46 22½	92 6	+1 16	170 12 0	☉ and ☽'s Limbs. Barometer 29,97. Thermometer 81¼. Dollond's Quadrant.
	41 58		46 0¼	6½			
	43 20½		45 42¼	6½			
	44 44		45 21	6½			
	47 54½		44 39	8¼			
	49 05		44 22½	9			
	50 31		44 2½	10			
	14 53 9		43 29¼	92 11	+1 58½	169 42 37	☉ and ☽. Barometer 29,97. Thermometer 81¼. Ramsden's Quad.
	54 41		43 7½	11¾			
	55 46		42 52	11¾			
	56 45		42 38½	12			
	58 8		42 19¼	12¼			
	59 32		41 59¼	13½			
	18 32 39			36 6½	+1 20	169 35 38	☽ and Spica. Barometer 30,08. Thermometer 81. Cloudy.
	35 2			8¼			
	35 51			8			
	38 39			9¼			
	39 4½			9			
	18 47 52			63 28	+1 20	169 40 37	☽ and α Aquilæ. Barometer 30,08. Thermometer 81. Very cloudy.
	48 45			27¼			
	50 57			26¼			
	52 37			26½			
☿ —— 17.	15 21 26		62 6½	119 10¼	+1 47½	169 53 15	☉ and ☽. Barometer 30,07. Thermometer 79½. Ramsden's Quad.
	24 3½		61 33½	12¼			
	25 9		61 18¾	12½			
	26 20		61 2¼	13¼			
	27 18		60 45½	14			
	28 52		60 28	14¼			
	29 52½		60 13½	15			
	30 56		60 0½	15¼			
	31 45		59 48¾	16			
	32 52		59 33½	16¼			
						169 48 49½	Mean of all.

Obſervations made at the Iſland of Tanna, one of the New Hebrides

Obſervations on the Tides

1774	Apparent Time H ′	Height of the Tide F I	Remarks
♄ Auguſt 6	4 48		Time of high water eſtimated
	22 14		The water at a mark
	23 42		Low water by equal altitudes.
☉ —— 7	1 10		The water returned to the mark
	5 47	3 0	High water by eſtimation
☿ —— 17	20 45		Low water by eſtimation
	3 48		The water at a mark
♃ —— 18.	0 1		The water at another mark
	2 55	3 01	High water by equal altitudes
	5 37		Water returned to the latter mark

1774	Apparent Time H ′	Height of the Tide F I	Remarks
♃ Auguſt 18	5 58		Water returned to the firſt mark
	21 30		Low water by eſtimation
♀ —— 19	2 10		The water at a mark
	2 30		The water at a ſecond mark
	3 50½	3 5	High water by equal altitudes
	5 15		Water returned to the latter mark
	5 25		Water returned to the firſt mark

The high and low waters were marked on a poſt and the diſtance between theſe marks meaſured with a two feet rule

Computations of the going of Mr Kendall's Watch

1774	Time of apparent Noon by the Watch H ′ ″	Mean Time of apparent Noon. H ′ ″	Watch too ſlow for mean Time H ′ ″	Watch gains between the Obſervations ′ ″	Watch gains each Day ″
☉ Auguſt 7	11 56 48,2	24 5 23,23	12 8 35,03		
♃ —— 11	11 57 08,16	4 51,64	7 43,48	0 51,55	12,89
♀ —— 12	11 57 13,44	4 42,32	7 28,90	0 14,58	14,58
☽ —— 15	11 57 23,19	4 10,82	6 47,53	0 41,37	13,79
☿ —— 17	11 57 27,58	3 47,14	6 19,56	0 27,97	13,98
♀ —— 19.	11 57 31,74	3 21,21	5 49,49	0 30,07	15,03
				Mean	14,054

If the gain between the firſt and laſt Obſervation be taken and divided by the number of days elapſed, the daily gain of the Watch on mean time will be 13,795 but if a mean of all the compariſons which can be formed out of the ſix day's Obſervations be taken, the daily gain on mean time will be 13,938

Obſervations for the Latitude of the Place

1774	Double Altitude of the ☉'s L L ° ′ ″		Latitude South ° ′ ″
☉ Aug 7	107 24 0	Dollond's Quadrant	19 32 18
♂ —— 9	108 31 30	Ditto	19 32 33
☿ —— 10	109 7 10	Ramſden's ditto	19 32 7
♃ —— 11	109 41 52	Ditto	19 32 25
♀ —— 12	110 17 8	Dollond's ditto.	19 32 41
☽ —— 15	113 11 0	Ditto	19 32 29
♂ —— 16	113 48 45	Ramſden's ditto	19 32 25½
		Mean Latitude	19 32 25½ South

Obfervations made on the Ifland Pudyoua, on the Coaft of New Caledonia.

1774.	Equal Altitudes. Times by the Watch K. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Diftance. ° ′	Altitude of the ☉'s L. L on the Meridian. ° ′	Time of apparent Noon by the Watch. H ′ ″	Remarks, &c.
☽ Sept. 5.	23 11½	9 25 19½	27 26	49 40			☉'s U. L. Eafterly.
	25 48	27 54	30 01				☉'s L. L. Eafterly.
♂ —— 6.					62 59⅓	12 16 41,9	Height of the eye 10 feet.
		15 5 43		49 40			☉'s L. L. Wefterly.
	10 26	8 21	6 12½				☉'s U. L. Wefterly.

Obfervations of the Solar Eclipfe.

At 13h. 11′ 47″ by the Watch, I had a fhort fight of the Sun between the clouds, and faw that the Eclipfe had begun: It remained cloudy until a little before two o'clock, when it cleared up, and I took the following meafurements with my Hadley's Sextant, which I think may be advantageoufly made ufe of on thefe occafions.

1774.	Time by the Watch K. H ′ ″	Apparent Time. H ′ ″	Diftance of the Cufps. After. ° ′	Diftance of the Cufps. Before. ° ′	Diftance &c. reduced. ′ ″
♂ Sept. 6.	14 10 28	1 53 45½	27½		26 54
	13 31	1 56 48½	27½		27 9
	15 57	1 59 14½		26¼	26 36
	17 19	2 0 36½		26¾	27 6
	22 50	2 6 7½		26½	26 51
	23 45	2 7 2½		26	26 21
	24 33	2 7 50½		26	26 21
	25 44	2 8 58½	26¼		25 54
	26 29	2 9 46½	26¼		25 54
	27 15	2 10 32½	26½		26 9
	28 22	2 11 39½	26		25 39
The Sun's diameter.			32	31½	31 57½
			32¼	31½	
			32¼	31¾	
	14 34 21	2 17 38½	25¾		25 24
	35 7	18 24½	25½		25 9
	35 39	18 56½	25½		25 9

1774.	Time by the Watch K. H ′ ″	Apparent Time. H ′ ″	Diftance of the Cufps. After. ° ′	Diftance of the Cufps. Before. ° ′	Diftance, &c. reduced. ′ ″
♂ Sept. 6.	14 49 54	2 33 11½		24¼	24 36
	53 7	2 36 24½		24	24 21
	54 30	2 37 47½		24¼	24 36
	15 11 53	2 55 10¼	23¾		23 24
	12 50	2 56 7¼		22½	22 36
	13 29	2 56 46¼		22½	22 51
	14 9	2 57 26¼	21		21 40
	14 39	2 57 56¼	21¾		21 24
	15 31	2 58 48¼		21½	21 51
			31½	31½	32 0½
			32½	31¾	
			32½	31⅝	
			32½	31½	
	15 22 14	3 5 34¼	21		20 39
	23 36	3 6 53¾	20½		20 9
	25 59	3 9 16¾		20½	20 51
	27 25	3 10 42¼		19¾	20 6

Obſervations made on the Iſland of Pudyoua, on the Coaſt of New Caledonia, Continued

Obſervations of the Solar Eclipſe

1774	Time by the Watch K (H ′ ″)	Apparent Time (H ′ ″)	Lucid Part. After (° ′)	Lucid Part. Before (° ′)	Parts &c reduced (′ ″)
♂ Sept. 6	15 29 01	3 12 18¼		26½	26 51
	30 13	3 13 30½		27¼	27 36
	30 50	3 14 7¾	28¾		27 54
	31 42	3 14 59¾	28¾		27 54
	32 34	3 15 51¼	29		28 40
	33 9	3 16 26¾	29¼		28 54
	33 52	3 17 09¾		28¼	28 36
	34 27	3 17 44¾		28½	28 51
	35 3	3 18 20¼		29	29 21

1774	Time by the Watch K.	Apparent Time.	☉'s Diameter After (°)	☉'s Diameter Before (° ′)	Reduced
After the Eclipſe			32¼	31½	32 0
			32	31¾	31 52½
			32½	31½	31 52½
			32½	31¼	32 0
			32½	31¼	32 0
			32½	31¼	31 52½
W W	15 45 32	3 28 49¼	End of the Eclipſe.		
Mr Clerke	45 35	52¼			
Capt Cook	45 36	53¼			

As the cuſps approach each other the faſteſt towards the end of the Eclipſe, it would certainly have been beſt to continue meaſuring their diſtance to the end, if it could have been done with exactneſs; but I found that when they began to grow very obtuſe, it was not eaſy to determine their coincidence, at leaſt with ſo ſmall a magnifying power as is generally uſed with Hadley's quadrant If a micrometer on the ſame principles with Hadley s quadrant was applied to a proper teleſcope, which I think might be done with ſome advantage, this defect might probably vaniſh; as things are, I think it would be beſt always to meaſure the parts uneclipſed

Of the Tides

The diſtance which we lay from the ſhore, and the difficulty of getting thither, would not permit me to make a regular ſeries of Obſervations on the Tides; but I found by equal altitudes of the water, that it was low water at the iſland where I obſerved the eclipſe at 18 paſt noon of the 6th; and, as near as I could eſtimate, it was high water on the ſhore oppoſite the ſhip, at half paſt ſix o clock the next morning. At 58 paſt noon on the 7th it was low water; but I could determine nothing with reſpect to the quantity it had ebbed, as the natives would not ſuffer any mark to ſtand on the ſhore, and there was no fixed object by which it could be done The next morning I got the time of high water very accurately, by means of equal altitudes, at 19 h 29, and found that it had flowed three feet and near an inch from yeſterday s low water mark At five or ten minutes paſt two o clock on the 8th, it was low water, and I found that it had ebbed out from this morning's high water mark three feet and an inch nearly These were all the remarks of this ſort which I was able to make here

Obfervations made on Board the Ship, at Anchor.

Obfervations of Meridian Altitudes for the Latitude.

1774.	Meridian Altitude of the ☉'s L. L. ° '	Latitude. ° ' "	Quadrant.
☿ Sept. 7.	63 23½	20 16 40	Ramfden.
♃ —— 8.	63 45½	20 16 52	Dollond.
♀ —— 9.	64 8 1/12	20 16 48	Ramfden.
♄ —— 10.	64 29½	20 18 20	Ramfden.
☉ —— 11.	64 52½	20 18 0	Ramfden.
	64 52½	20 18 30	Dollond.
☽ —— 12.	65 14½	20 18 45	Dollond.
	65 15¼	20 18 30	Ramfden.
Latitude		20 17 48	South.

*** The great difference between the latitudes deduced from the three firft Obfervations, as well as that made on the little ifland, on ♂ the 6th, and thofe deduced from the five laft Obfervations, did not efcape my notice at the time, nor did they pafs without the ftricteft examination, as well as care, in the four laft, fo that I am certain no miftake has happened in them; and that no miftake has been committed in the former may reafonably be concluded, as they agreed exceeding near with thofe taken by Mr. Clerke and others on the little ifland.

N. B. The fmall ifland, where I obferved the Eclipfe, bore S. 88 E. by compafs, about a mile diftant; that is, about S. 79° E. true: Of courfe the difference of latitude is about 11", whence the latitude of the ifland will be 20° 17′ 59″ S.

Obfervations for the Longitude by the Watch K.

1774.	Time by the Watch K. H ' "	Apparent Time. H ' "	Altitude of the ☉'s L. L. ° ' "	Barometer.	Thermometers. A.	Thermometers. B.	Longitude by the Watch. ° ' "	No. of Obfervations.	Remarks.
☽ Sept. 5.	15 17 44½	3 0 50,7	37 45 54	30,09	77	75⅔	163 55 22½	10	Cloudy.
♂ —— 6.	9 49 24⅔	21 32 45½	44 59 44	30,08	73½	72½	163 56 37½	6	
☿ —— 7.	7 13 4	18 56 36	11 0 10	30,04	73½	72¼	163 58 0	6	
♃ —— 8.	7 9 4½	18 51 33½	9 58 52	30,08	73¼	74¼	163 55 45	6	
♀ —— 9.	7 54 14½	19 37 54	20 43 41	30,09	73½	71	163 56 45	6	
♄ —— 10.	16 5 39	3 49 22,7	28 9 10	30,06	76	75	163 57 0	8	Dift.
	16 12 2⅓	3 55 50	26 42 40	30,06	76	75	163 58 0	6	Dift.
	8 24 32	20 8 16	27 44 23	30,21	73¾	72	163 56 7½	10	
☉ —— 11.	15 21 21⅔	3 5 10	38 1 9	30,08	74¾	76½	163 56 37½	6	
	7 38 2½	19 21 52	17 22 7½	30,14	74	72¾	163 55 52½	6	
	15 5 14½	2 49 12	41 37 13½	30,08	76½	79	163 57 15	8	Dift.
				Mean of all			163 56 40¼	Eaft.	

Obfervations made on Board the Ship, at Anchoi

Obfervations for the Variation of the Compafs

1774	Altitude of the ☉'s L L (° ′ ″)	Azimuth of the ☉ s Center	Variation Eaft (° ′)	No of Obfervat.	Remarl s
☿ Sept 7	7 2 24	N 73 3 E	7 59½	5	Gregory's Compafs, obferved by Mr Clerke
	8 5 20	N 72 22 E	8 15	5	Gregory s Compafs
♃ —— 8	6 0 10	N 73 46 E	7 42½	5	Gregory s Compafs
	8 24 2	N 72 22 E	8 30½	5	Knight's Compafs
♀ —— 9	10 31 24	N 71 3 E	9 25	10	Knight s Compafs
☉ —— 11	10 12 45	N 72 3 E	9 22½	10	Knight's Compafs
		Mean	8 32½	Eaft	

This variation, as ufual, is confiderably lefs than any obferved at fea for fome time, both before and after we were at this place

Lunar Obfervations for the Longitude

1774	Time by the Watch K (H ′ ″)	Apparent Time (H ′ ″)	Altitude of the ☉ or ✱	Moon s Altitude	Diftance ☽ s Limb from ☉ or ✱	Barom	Therm	Longitude Eaft (° ′)	Remarks.
♀ Sept 9	19 3 36½	6 47 11½	65 53½ tr	27 4 tr	42 17 30	30 08	71½	165 17½	☽ and Antares, a mean of 7 Obfervations
♄ —— 10	16 5 39	3 49 22 7	28 9½ L L	76 29½ L. L.	50 4 22½	30,06	75	164 15½	☉ and ☽ a mean of 8 Obfervations
	16 12 2½	3 55 50	26 42½ L L	75 31 L L.	50 6 22	30,06	75	164 13½	☉ and ☽ a mean of 6 Obfervations
☉ —— 11	19 4 54	6 48 43	19 6 tr	52 32 tr	32 48 28½	30,18	73	164 31½	☽ and Spica a mean of 8 Obfervations
	19 25 58½	7 9 57½	56 27½	47 44½ tr	66 23 17½	30,18	73	164 56½	☽ and α Aquilæ a mean of 6 Obfervations
☽ —— 12	15 5 14	2 49 12	41 37½ L L		75 56 50	30,08	79	164 19½	☉ and ☽ a mean of 8 Obfervations
	15 13 44	2 57 42	39 47½ L L		75 59 36¼	30,08	79	164 22½	☉ and ☽ a mean of 8 Obfervations
	19 9 34¼	2 53 33	54 42½	54 34 tr	54 16 10½	30,10	73½	165 40½	☽ and α Aquilæ a mean of 8 Obf Cloudy

As it frequently happened that the altitude of one or both of the objects could not be obferved for the land I was obliged to compute them from the apparent time deduced from the Watch; and fuch are here marked tr The numbers put down are the true altitude of the center

The mean of the above Obfervations give 164° 42 6 ½ for the Longitude of the fhip. Twenty Obfervations taken before we arrived and reduced hither by the Watch give 164° 45 54 ½; and twenty taken after leaving the place gave 164° 32 32″ the mean of thefe three is 164 40 11 E the Longitude of the fhip at anchor The bearing and diftance of the little ifland where I obferved the eclipfe gives 1 3 for the difference of Longitude between the fhip and Ifland and of cou fe the Longitude of the latter will be 164 41 14 E but the Watch gave only 27 ½ difference of Longitude; and the efore f this be taken its Longitude will be no more than 164 40 38 ½ E I fhould prefer the former

Observations made at Queen Charlotte's Sound, in New Zealand.

1774.	Equal Altitudes. Times by the Clock B. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Distance.	Azimuth of ☉'s center from the North at the times of equal Altitudes. Lower Wire.	Middle Wire.	Upper Wire.	Time of apparent Noon by the Clock.	Phenomena and Remarks.	
	′ ″	H ′ ″	′ ″	° ′ ″	° ′	° ′	° ′	H ′ ″		
♀ Oct. 21.	19 21	9 21 40½	24 1	64 40 0					☉'s U. L.	Easterly.
	22 14½	24 36:	26 56						☉'s L. L.	
	33 06	11 35 59½	38 54½	41 20 0					☉'s U. L.	
	36 41	39 44:	42 34½						☉'s L. L.	
♄ — 22.								13 47 14,28		
		15 55 7½	52 11½	41 20 0					☉'s L. L.	Westerly.
	1 42	58 50	55 57						☉'s U. L.	
	12 39½	18 10 18¼	7 58	64 40 0					☉'s L. L.	
	15 36	13 15½	10 55						☉'s U. L.	
	6 48½	10 9 15	11 39	56 20 0					☉'s U. L.	Easterly.
	9 49½	12 14½	14 38½						☉'s L. L.	
	52 1	10 54 34	57 7	48 20 0					☉'s U. L.	
	55 11	57 40	0 20½						☉'s L. L.	
☉ — 23.								13 50 45,29		
	46 41	16 44 6½		48 20 0					☉'s L. L.	Westerly.
	49 51	47 19	44 46						☉'s U. L.	
	32 04	17 29 39	27 16	56 20 0					☉'s L. L.	
	35 03½	32 40½	30 17						☉'s U. L.	
	38 18½	9 40 42	43 3	62 0 0					☉'s U. L.	Easterly.
	41 16½	43 38½	46 59						☉'s L. L.	
☽ — 24.								13 54 19,11		
	7 47			62 0 0					☉'s L. L.	Very cloudy.
	10 45	18 8 23							☉'s U. L.	Westerly.
♂ — 25.	39 28	9 41 49½	44 9	62 40 0	69 0	68 25	68 0		☉'s U. L.	Easterly.
	42 25	44 45:	47 4½		68 25	67 55	67 45		☉'s L. L.	
	52 02:	9 54 23½	56 44	60 20 0	67 0	66 30	66 0		☉'s U. L.	
	54 58	57 19½	59 41		66 20	66 0			☉'s L. L.	
☿ — 26.					Varia.	14 20	East.	14 1 28,25		
	8 23½	18 6 1½		60 20 0	94 45	94 25			☉'s L. L.	Westerly.
	11 21½	8 59	6 39		95 15	94 40	94 35		☉'s U. L.	
	20 58	18 18 37½	16 19:	62 40 0	97 30	96 50	96 25		☉'s L. L.	
	23 53½:	21 34	19 13½		97 50	97 30	96 55		☉'s U. L.	
♃ — 27.	31 52½	9 34 13	36 32	65 0 0	72 5	71 50	71 30		☉'s U. L.	Easterly.
	34 47½	37 7½	39 27		71 45	71 25	71 05		☉'s L. L.	
		9 46 42½	49 1	62 40 0		69 50	69 25		☉'s U. L.	
	47 16	49 37	51 57½		69 45	69 25	69 0		☉'s L. L.	
♀ — 28.					Varia.	13 59½	East.	14 8 42,29		
	30 34½	18 28 13:		62 40 0	97 50	97 15	96 55		☉'s L. L.	Westerly.
		19 31 8:				97 45			☉'s U. L.	
	43 2½	18 40 40½	38 24:	65 0 0	99 35	99 20	99 10		☉'s L. L.	
	45 58½	43 30½	41 17		100 20	99 45	99 30		☉'s U. L.	
☉ — 30.	55 27½	9 57 47½	0 7	62 0 0	70 55	70 20	70 05		☉'s U. L.	Easterly.
	58 22	10 0 42:	3 2½		70 15	70 05	69 45		☉'s L. L.	
	7 58	10 10 19	12 39½	59 40 0	68 15	68 5	68 0		☉'s U. L.	
	10 54	13 15	15 35		68 0	67 50	67 15		☉'s L. L.	
☽ — 31.					Varia.	14 18½	East.	14 19 36,89		
	28 42½	18 26 22	24 2½	59 40 0	96 45	96 0	95 40		☉'s L. L.	Westerly.
	31 38½	29 18	26 59		97 15	96 55	96 5		☉'s U. L.	
	41 16½:	18	36 34½	62 0 0	99 0		98 30		☉'s L. L.	
		41 50:	39 29:			99 5	98 45		☉'s U. L.	

Observations made at Queen Charlotte's Sound, Continued

1774	Equal Altitudes, Times by the Clock B: Lower Wire	Middle Wire	Upper Wire	Zenith Distance	Azimuth of ☉ s centre from the North at the times of equal Altitudes: Lower Wire	Middle Wire	Upper Wire	Time of apparent Noon by the Clock	Phenomena and Remarks
		H	′ ″	° ′ ″	° ′		′	H ′	
☿ Nov 2	6 45	10 9 6	11 24	61 20 0	71 35	71 20			☉ s U L Easterly
	9 40½	12 0	14 20		71 20	71 0	70 50		☉ s L L
	19 13	10 21 34	23 53½		69 40	69 25	69 20		☉ s U L
	22 10	24 30½	26 51	59 0 0	69 20	69 20	69 05		☉ s L L
♃ — 3					Varia	14 15	East	14 30 37 10	
	39 25½	18 37 5	34 45		97 45	97 25	97 0		☉ s L L Westerly
	42 23	40 2½	37 43	59 0 0	98 10	97 50	97 30		☉ s U L
	51 56	18 49 36½	47 16½		100 25	99 30	99 10		☉ s L L
	54 53	52 32	50 13½	61 20 0	100 35	100 25	99 35		☉ s U L
	46 57½	10 49 20	51 40½		65 0	64 45	64 15		☉ s U L Easterly
	49 55½	52 18	54 39½	54 20 0	64 45	64 10	63 35		☉ s L L
♀ — 4					Varia	14 48½	East	14 34 18 45	
	19 0	18 16 40	14 18		94 30	93 30	93 15		☉ s L L Westerly
	21 58½	19 37	17 17	54 20 0	94 45	94 35	93 35		☉ s U L
		9 56 39	58 57½			75 0	74 35		☉ s U L Easterly
		59 33½	1 51½	64 40 0		74 30	74 15		☉ s L L
	28 7½	10 30 29	32 48		69 35	69 15	69 05		☉ s U L
	31 4½	33 25½	35 45	58 20 0	69 15	69 0	68 30		☉ s L L
♄ — 5					Varia	14 24½	East	14 38 0 49	
	45 17½	18 42 56½	40 38		98 0	97 35	97 10		☉ s L L Westerly
	48 13½	45 53½	43 34	58 20 0	98 25	98 05	97 40		☉ s U L
		19 16 51	14 32½			103 35	103 5		☉ s L L
		19 46	17 27	64 40 0		103 50	103 40		☉ s U L

⁂ The Observatory stood exactly in the place where it did last year, and where I observed the equal altitudes in May and June, 1773 The Clock also was fixed up in the usual manner, by means of the iron block and frame but I had the mortification to find it so much injured by the dampness of the place it had lain in, and the parts, particularly the pendulum, so covered with rust, that it would not go without fresh oil, and an additional weight for the first day or two after it was set up

Obſervations made at Queen Charlotte's Sound, Continued.

Computations of the Clock's Rate of going.

1774.	Time of apparent Noon by the Clock. H ′ ″	Syderial Time of apparent Noon. H ′ ″	Clock too faſt for Syderial Time. ′ ″	Clock loſes between the Obſervations. ″	Clock loſes each Day on Syderial Time. ″
♄ Oct. 22.	13 47 14,28	13 46 33,90	0 40,38		
☉ —— 23.	13 50 45,29	13 50 21,80	0 23,49	16,89	16,89
☽ —— 24.	13 54 19,11	13 54 10,70	0 08,41	15,08	15,08
			Clock ſlow.		
☿ —— 26.	14 1 28,25	14 1 50,38	0 22,13	30,54	15,27
♀ —— 28.	14 8 42,29	14 9 33,10	0 50,81	28,68	14,34
☽ —— 31.	14 19 36,89	14 21 13,10	1 36,21	45,40	15,13
☉ Nov. 3.	14 30 37,10	14 33 0,37	2 23,27	47,06	15,69
♀ —— 4.	14 34 18,45	14 86 57,78	2 39,33	16,06	16,06
♄ —— 5.	14 38 0,49	14 40 56,01	2 55,52	16,19	16,19
				Mean	15,58

If the gain between the firſt and laſt Obſervation be taken, the Clock's gain on Syderial Time will be 15″,42 each day.

The pendulum vibrated 1° 37′¼ each way from the perpendicular the whole time.

Obſervations of Meridian Altitudes of the Sun and Stars for the Latitude.

1774.	Zenith Diſtances. Interior Arch. ° ′ ″	Zenith Diſtances. Exterior Arch. G. S. V.	Exterior Arch. +″	Exterior Arch reduced. ° ′ ″	Barom.	Thermom. In Tent.	Thermom. Out.	Phenomena and Remarks.
☿ Oct. 26.	28 56 45	30 3 17	10	28 57 19	29,67	70¼	71	☉'s L. L.
♀ —— 28.	27 43 53	29 2 11	8	27 44 20½	29,67	67	68	☉'s U. L.
☽ —— 31.	27 16 52	29 0 13	21	27 17 19	29,60	65	67	☉'s L. L.
	10 17 7	10 3 29	0	10 17 26	29,61	55	50⅓	Fomalhaut.
	55 4 25	58 3 0	15	55 4 56	29,61	55	50⅔	α Pegaſi.
	68 54 28	73 2 1	5	68 54 54	29,62	53½	50	α Andromedæ.
	17 17 15	18 1 25	8	17 17 41	29,62	52½	49½	Achernar.
♂ Nov. 1.	26 24 22	28 0 21	20	26 24 33½	29,70	67	66	☉'s U. L.
☿ —— 2.	26 37 55	28 1 21	6	26 38 17½	29,38	67½	65½	☉'s L. L.
	6 56 40	7 1 21	21	6 57 23	29,40	51¼	45½	α Gruis.

Obſervations at Queen Charlotte's Sound, Continued

Obſervations of meridian Altitudes of the Sun and Stars for the Latitude

1774	Zenith Diſtances Interior Arch ° ′ ″	Zenith Diſtances Exterior Arch G S V	″+	Exterior Arch reduced ° ′ ″	Barom	Thermom In Tent	Thermom Out	Phenomena and Remarks
☿ Nov 2	6 56 53	7 1 22	4	6 57 33	29,40	50½	44½	β Gruis
	10 17 7	10 3 28	23	10 17 22½	29,41	50	43	Fomalhaut
	55 4 6	58 3 0	0	55 4 41	29,41	50	43	α Pegaſi
	68 54 3	73 2 0	24	68 54 22½	29,42	48¼	43	α Andromedæ
	17 16 30	18 1 23	23	17 16 40	29,42	47	43¼	Achernar
♃ —— 3	6 56 40	7 1 21	10	6 57 2½	29,49	55¼	53	α Gruis
	20 15 52	21 2 16	6	20 16 30	29,49	55¼	53	α Anſeris Americani
	6 56 55	7 1 22	10	6 57 39	29,49	51¾	48¼	β Gruis
	10 16 40	10 3 28	12	10 17 11½	29,49	51¾	48¼	Fomalhaut
	55 4 8	58 3 0	4	55 4 45	29,49	51¾	48¼	α Pegaſi
	68 54 23	73 2 0	22	68 54 44½	29,50	50	47½	α Andromedæ
	17 16 32	18 1 24	0	17 17 6½	29,54	51	50	Achernar
♀ —— 4	6 56 58	7 1 22	13	6 57 29	29,52	59	56	β Gruis
	10 17 10	10 3 29	10	10 17 36	29,52	57½	53½	Fomalhaut.
	55 4 35	58 3 1	0	55 5 7½	29,52	57½	53½	α Pegaſi
♄ —— 5	25 9 20	26 3 11	13	25 9 44	29,75	70	73½	☉ s U L

For the Error of the Line of Collimation of the Quadrant

1774	Zenith diſtance of the upper hole the quadrant direct: Interior Arch ′ ″	Exterior Arch G S V	+	Zenith diſtance of the lower hole the quadrant inverted: Interior Arch ″	Exterior Arch G S V	+″
	89 13 25	95 0 23	0	90 45 55	96 3 8	20
	13 35	23	14	45 25	8	7
	13 40	23	7	45 25	8	9
	13 50	23	24	45 45	8	20
	13 45	23	13	45 30	8	7
	13 50	23	12	45 35	8	10
	13 37	23	20	46 35	10	20
	13 50	24	14	46 23	10	0
	14 0	23	24	46 30	10	6
	13 55	24	5	46 05	10	0
	14 05	23	20	46 05	9	20

These Obſervations give four compariſons for each arch of the Quadrant viz + 21″½ —6″½, +15″¼ and —0 ¼ for the interior, or 90 arch; and +1 ¼, —28″¾, —6″½ and —21″ for the exterior, or 96 arch the mean of the former is 7 ½ to be added, and of the latter 13″¾ to be ſubtracted

Obſervations at Queen Charlotte's Sound, Continued.

Computations for the Latitude of the Place.

1774.	Latitude by the Interior Arch. ° ′ ″	Latitude by the Exterior Arch. ° ′ ″	Declination. ° ′ ″
	By Obſervations of the Sun.		
☿ Oct. 26	41 5 46½	41 5 59½	12 24 37 S.
♀ —— 28.	41 5 58½	41 6 4½	13 5 23
☽ —— 31.	41 6 11½	41 6 17½	14 4 59
♂ Nov. 1.	41 5 29	41 5 19½	14 24 25
☿ —— 2.	41 5 51½	41 5 58	14 43 36½
♄ —— 5.	41 5 44½	41 5 47½	15 39 44½
	41 5 50½	41 5 54½	Means.
	By Obſervations of Fomalhaut.		
☽ Oct. 31.	41 6 03¾	41 6 01	30 48 40 S.
☿ Nov. 2.	41 6 03¾	41 5 57½	
♃ —— 3.	41 5 36½	41 5 47	
♀ —— 4.	41 6 06¾	41 6 11	
	41 5 57¾	41 5 59	Means.
	By Obſervations of α Andromedæ.		
☽ Oct. 31.	41 6 6½	41 6 11	27 50 56¼ N.
☿ Nov. 2.	41 5 45	41 6 5	
♃ —— 3.	41 6 2	41 6 2	
	41 5 57	41 6 6	Means.
	By Obſervations of α Pegaſi.		
☽ Oct. 31.	41 5 51	41 6 1	14 0 03 N.
☿ Nov. 2.	41 5 33	41 5 47	
♃ —— 3.	41 5 34	41 5 50	
♀ —— 4.	41 6 0	41 6 11	
	41 5 41½	41 5 57¼	Means.

1774.	Latitude by the Interior Arch. ° ′ ″	Latitude by the Exterior Arch. ° ′ ″	Declination. ° ′ ″
	By Obſervations of α Gruis.		
☿ Nov. 2.	41 5 32	41 5 10	48 2 26¼ S.
♃ —— 3.	41 5 32	41 5 21	
	41 5 32	41 5 15½	Means.
	By Obſervations of β Gruis.		
☿ Nov. 2.	41 6 13½	41 5 55	48 3 21 S.
♃ —— 3.	41 6 11½	41 5 39	
♀ —— 4.	41 6 8½	41 5 46	
	41 6 11⅙	41 5 46⅔	Means.
	By an Obſervation of α Anſeris Americani.		
♃ Nov. 3.	41 6 12	41 5 55	61 22 32½ S.
	By Obſervations of Achernar.		
☽ Oct. 31.	41 5 39	41 5 43	58 23 19¼ S.
☿ Nov. 2.	41 6 24½	41 6 13	
♃ —— 3.	41 6 22	41 6 15½	
	41 6 8¼	41 6 4	Means.
	41 6 01	41 5 45¾	Mean of the ſouthern ſtars.
	41 5 52¾	41 5 59½	Mean of the northern ſtars.
	41 5 57	41 5 52¼	Mean of both.
	41 5 54½	Latitude South.	

Lunar Obſervations for the Longitude.

1774.	Time by the Clock. H ′ ″	Apparent Time. H ′ ″	True Alt. of ☉'s Center. ° ′	Zenith Diſtance of ☽'s U. L. ° ′	Diſtance of the ☉ and ☽'s Limbs. ° ′	Error of the Quadrant. ′ ″	Barometer.	Thermometer.	Longitude. ° ′ ″	Remarks.
☉ Oct. 23.	4 33 49	14 40 55	♃'s firſt ſatellite immerged at a ſenſible diſtance from the Planet. Mag. power 150						174 7 30	
♂ —— 25.	8 41 26	18 44 30	16 24½	65 15¾	109 39½	+3 29	29,68	60½	174 22 50	Dollond's Quadrant.
	43 21			26¼	39½					
	44 40			33½	39					
	46 2			40	38¾					
	47 14			46¾	38					
	48 21			52½	38					
	8 52 44	18 54 49½	18 29½	66 17¾	109 42	−1 54	29,68	60½	174 33 55	Ramſden's Quadrant.
	53 49			23¾	41½					
	55 2			31	41¼					
	55 59			36½	41					
	57 4			42½	40¾					
	58 34			51½	40½					

Observations at Queen Charlotte's Sound, Continued

Lunar Observations for the Longitude

1774	Time by the Clock	Apparent Time	True Alt. of ☉'s Center	Zenith Distance of ☽'s U L	Distance of the ☉ and ☽'s Limbs	Error of the Quadrant	Barometer	Thermometer	Longitude	Remarks
	H ′	H ′ ″	° ′		° ′				° ′ ″	
♃ Oct. 27.	8 46 10	18 41 40¼	16 18½	57 33½	87 51½	+3 38	29 72	59	174 6 30¼	Dollond's Quadrant
	47 20			34	51½					
	48 55			35½	51					
	50 23			36¾	50½					
	51 24			37¼	50¼					
	53 3			39¼	49¾					
	8 55 25	18 51 21½	18 08	57 43¼	87 54¾	−1 42½	29,72	59	174 33 52	Ramsden's Quadrant
	57 3			45	54					
	58 33			47	53½					
	59 51			49	53½					
	9 1 35			51¾	52¾					
	3 4			54	52					
☉ — 30	10 24 59	20 9 43¾	33 28½	48 43½	53 19	+3 52	29 58	67	174 31 15	Dollond's Quadrant
	26 45			40	18¾					
	28 18			35	18¼					
	29 35			33½	17½					
	30 45			31	17¼					
	32 6			28½	17					
	10 34 29	20 18 49	35 8½	48 24	53 22½	−2 26	29 58	67	174 41 15	Ramsden's Quadrant
	35 59			21½	22					
	37 9			19¾	21¼					
	38 41			17¾	21					
	39 56			16	20½					
	41 0			14¾	20¼					
	11 56 45	21 29 38¾	49 15⅓	49 28¾	52 49	+3 32	29 64	70	174 20 55	Dollond's Quadrant
	58 16			36¼	48½					
	59 53			40	48¼					
	12 0 43			43	48					
	12 2 48	21 44 57	50 7¼	49 50	52 53	−2 22	29,64	70	174 28 15	Ramsden's Quadrant
	3 39			54½	53¼					
	4 33			56½	52¾					
	5 54				52¾					
☽ — 31	10 14 41	19 56 40¼	31 14⅛	50 1½	41 22¼	+3 26½	29 68	65	174 41 7½	Dollond's Quadrant
	16 19			49 0¼	22					
	18 41			48 48	21¼					
	20 0			34½	21					
	21 54			27¾	20					
	24 21			18	20					
				3½						
	10 27 5	20 9 28	33 37½	47 49½	41 25	−2 15½	29 68	65	174 44 37½	Ramsden's Quadrant
	30 7			32½	23½					
	31 41			25½	22½					
	33 0			18¾	22					
	34 24			12	21½					
	36 37			01	21					

Obſervations at Queen Charlotte's Sound, Continued.

Lunar Obſervations for the Longitude.

1774.	Time by the Clock. H ′ ″	Apparent Time. H ′ ″	Zenith Diſt. of the ☉'s L. L. ° ′	True Altit. of the ☽'s Center. ° ′	Diſtance of the ☉ and ☽'s Limbs. ° ′	Error of the Quadrant. ′ ″	Barometer.	Thermometer.	Longitude. ° ′ ″	Remarks.
♂ Nov. 1.	13 51 59	23 28 $41\frac{2}{3}$	27 $42\frac{1}{6}$	48 17	27 43	+3 30	29,38	$71\frac{1}{2}$	174 39 $7\frac{1}{2}$	Dollond's Quadrant.
	53 52		$36\frac{1}{4}$		$42\frac{1}{2}$					
	55 12		$31\frac{1}{4}$		$42\frac{1}{6}$					
	56 22		$27\frac{1}{2}$		42					
	57 27		$24\frac{1}{6}$		$41\frac{1}{4}$					
	58 27		$21\frac{1}{4}$		41					
	14 0 30	23 37 $0\frac{1}{2}$	27 $15\frac{1}{3}$	47 $36\frac{1}{6}$	27 $46\frac{1}{6}$	−2 45	29,38	$71\frac{1}{2}$	174 41 15	Ramſden's Quadrant.
	1 46		$12\frac{1}{3}$		46					
	2 51		$9\frac{1}{3}$		$45\frac{3}{4}$					
	3 41		7		$45\frac{1}{3}$					
	6 30		1		$44\frac{1}{4}$					
	7 54		26 58		$43\frac{3}{4}$					

The following Obſervations were made on board the Ship; the Place of the Obſervatory bearing S. by W. $\frac{1}{2}$ W. by Compaſs, about Half a Mile Diſtant.

1774.	Time by the Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	True Altitude of the ☽'s Center. ° ′	Diſtance of the ☉ and ☽'s Limbs. ° ′	Error of the Quadrant. ′ ″	Barometer.	Thermometer.	Latitude. ° ′ ″	Remarks.
♂ Nov. 8.	8 21 56		41 22			−2 44	29,35	60		
	21 $24\frac{1}{2}$		27							
	22 52		$31\frac{1}{2}$							
	23 23		37							
	23 51		42							
	24 24		$47\frac{1}{2}$							
			True Altitude of the ☉'s Center.							
♀ —— 9.	16 30 $11\frac{1}{2}$	4 52 50	23 $32\frac{2}{3}$	66 $20\frac{1}{4}$	68 $50\frac{1}{4}$	+3 5	29,65	62	174 35 15	Dollond's Quadrant. Cloudy.
	30 48				$50\frac{1}{2}$					
	31 $30\frac{1}{2}$				$50\frac{3}{4}$					
	32 10				$51\frac{1}{4}$					
	16 36 56	4 59 $49\frac{1}{2}$	22 $13\frac{1}{6}$	66 $18\frac{2}{3}$	68 53	+3 5	29,65	62	174 21 30	Dollond's Quadrant.
	37 27				$53\frac{1}{4}$					
	38 24				$53\frac{1}{2}$					
	38 $45\frac{1}{2}$				54					
	39 15				$54\frac{1}{4}$					
	16 50 29	5 15 57	19 $12\frac{1}{4}$	65 $50\frac{1}{3}$	69 5	−2 29	29,65	62	173 35 45	Ramſden's Quadrant. Very cloudy.
	52 42				$5\frac{1}{2}$					
	53 47				$6\frac{1}{4}$					
	55 13				$6\frac{1}{4}$					
	56 19				7					
	57 11				$7\frac{1}{4}$					

Obſervations at Queen Charlotte's Sound, Continued

Obſervations for the Dip of the Magnetic Needle

1774	Face of the Inſtrument East ° ′	Face of the Inſtrument Weſt ° ′
♂ Nov 1	63 35	64 15
	64 15	66 45
	64 25	65 30
	65 15	65 25
Mean	64 22½	65 28¾
Changed the Poles and altered the Balancing		
	64 0	63 30
	64 30	66 30
	64 25	63 30
	64 25	65 45
	64 20	65 25
	64 20	65 30
Mean	64 20	65 1⅓
Changed the Poles		
☿ —— 2	63 45	65 0
	63 15	65 45
☿ Nov 2	63 25	65 20
	63 0	64 45
Mean	63 21¼	65 12½

1774	Face of the Inſtrument Eaſt ° ′	Face of the Inſtrument Weſt °
Changed the Poles		
	66 30	64 40
	66 30	64 55
	66 30	66 20
	64 25	66 30
	64 50	66 40
Mean	65 45	65 49
Altered the Balancing		
	64 40	64 10
	64 20	64 0
	64 20	64 0
	63 20	63 55
	63 45	64 05
	64 40	65 45
	65 45	66 0
Mean	64 24⅐	64 33⅓

1774	Face of the Inſtrument Eaſt °	Face of the Inſtrument Weſt
Firſt Mean	64 22½	65 [illegible]
Second ditto	64 20	65 [illegible]
Third ditto	63 21¼	65 [illegible]
Fourth ditto	65 45	65 [illegible]
Fifth ditto	64 24⅐	64 [illegible]
Mean of all	64 26⅗	65 [illegible]
Mean of all this year		64 [illegible]
Laſt year		64 [illegible]
Firſt year		64 [illegible]
Mr Bayley's Obſervations		64 [illegible]
The mean of all		64 [illegible]

N B It was the Needle's ſouth end that dipped here

Computations of the Rate which Mr Kendall's Watch went at

1774	Time of Apparent Noon by the Clock H ′	Time by the Clock when the Watch was compared H ′ ″	Time from Noon by the Clock	Clock gained on Watch ſince Noon	Time from Noon by the Watch ′ ′	Time by the Watch when compared H ′ ″	Time of Apparent Noon by the Watch H ′	Mean Time of Apparent Noon H ′	Watch too ſlow for Mean Time H	[illegible]
♄ Oct 22	13 47 14 28	13 51 15	4 0 7	0 58	4 0 14	11 39 0	11 34 59 86	23 44 38 72	12 9 38 [illegible]	
☉ —— 23	13 50 45 29	14 13 46½	23 1 21	3 33	22 57 88	11 58 0	11 35 2 12	23 44 30 30	9 28 [illegible]	[illegible]
☽ —— 24	13 54 19 11	14 5 13½	10 54 39	1 57	10 52 82	11 46 0	11 35 7,18	23 44 22 59	9 15 41	[illegible]
☿ —— 26	14 01 28 25	14 8 9½	6 41 25	0 96	6 40 29	11 42 0	11 35 19 71	23 44 09,25	8 49 54	[illegible]
♀ —— 28	14 08 42 29	14 16 7½	7 25 21	1 07	7 24 14	11 43 0	11 35 35 86	23 43 58,92	8 23 [illegible]	[illegible]
☽ —— 31	14 19 36 89	14 41 37½	22 0 61	3 17	21 57 44	11 58 0	11 36 2 56	23 43 49 42	7 4[illegible] 80	[illegible]
♃ Nov 3	14 30 37 10	14 40 0	9 22 90	1 35	9 21 55	11 46 0	11 36 38 45	3 43 47 10	7 8 [illegible]	[illegible]
♀ —— 4	14 34 18 45	14 33 26¼	0 52 20	0 13	0 52 07	11 36 0	11 36 52 07	23 43 47 92	6 55 85	[illegible]
♄ —— 5	14 38 00,41	14 38 54	0 53 51	0 13	0 53 38	11 38 0	11 37 06 62	23 43 49 56	6 42 04	[illegible]
									The mean gain is	[illegible]

By taking a mean of all the compariſons that can be formed out of theſe, the Watch's gain each day, on mean time will come out 12 576

Observations made at Christmas Sound, in Terra del Fuego.

1774.	Equal Altitudes. Times by the Clock B. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Distance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.
♃ Dec. 22.	23 14	13 ——	——	61 0 0		☉'s U. L.
	——	——	——			☉'s L. L.
	——	13 42 51	45 55½	58 40 0		☉'s U. L.
	——	——	——			☉'s L. L. Easterly: Very cloudy.
	5 44½	14 8 52½	——	55 0 0		☉'s U. L.
	9 39	——	——			☉'s L. L.
	46 49	14 ——	——	49 20 0		☉'s U. L.
	——	——	——			☉'s L. L.
♀ —— 23.					18 19 14,14	
	——	——	——	49 20 0		☉'s L. L.
	51 37	21 ——	——			☉'s U. L.
	——	22 ——	——	55 0 0		☉'s L. L.
	32 41½	22 39 34	——			☉'s U. L. Westerly: Cloudy.
	——	——	——	58 40 0		☉'s L. L.
	——	22 55 39	52 34			☉'s U. L.
	——	——	——	61 0 0		☉'s L. L.
	15 14	13 ——	——			☉'s U. L.
	21 21	13 24 26	——	62 0 0		☉'s U. L.
	25 14	28 19	——			☉'s L. L.
	52 01½	13 ——	——	57 40 0		☉'s U. L. Easterly: Cloudy.
	——	——	——			☉'s L. L.
	——	——	9 51½	56 0 0		☉'s U. L.
	——	14 10 49½	——			☉'s L. L.
♄ —— 24.					18 24 18,83	
	——	22 37 44	——	56 0 0		☉'s L. L.
	——	——	38 34½			☉'s U. L.
	——	——	——	57 40 0		☉'s L. L. Westerly: Very cloudy.
	56 34	22 ——	——			☉'s U. L.
	23 22	23 20 17	——	62 0 0		☉'s L. L.
	27 16	24 9	——			☉'s U. L.
☉ —— 25.	43 30½ :	13 46 36	49 40½	60 20 0		☉'s U. L.
	47 23½ :	50 28	53 32			☉'s L. L.
	57 42 :	14 0 52½	3 47½	58 20 0		☉'s U. L.
	1 30½	4 36	7 41			☉'s L. L. Easterly: Cloudy.
	14 13½ :	14 17 16	20 23	56 0 0		☉'s U. L.
	18 04	21 11	24 17			☉'s L. L.
	50 7½	14 53 19½	56 30½	51 0 0		☉'s U. L.
	54 8	57 21	0 34			☉'s L. L.
☽ —— 26.					18 34 22,91	
	14 35	22 11 18½	8 7	61 0 0		☉'s L. L. Westerly: Cloudy.
	18 43 :	15 24½	12 6 :			☉'s U. L.

Obſervations at Chriſtmas Sound, Continued

1774	Equal Altitudes Times by the Clock B Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks
		H			H	
☽ Dec 26	50 38½	22 47 32	———	56 0 0		☉ s L L Weſterly Cloudy
	54 37	51 27	48 22			☉ s U L
	7 11½	23 4 7	———	58 20 0		☉ s L L
	———	8 0	———			☉'s U L
	21 23	23 18 18	15 9½	60 20 0		☉ s L L
	25 16½	22 12	19 9½			☉ s U L

*** The Clock was fixed up in the uſual manner, and the pendulum vibrated 1°¼ each way from the perpendicular

Meridian Zenith Diſtances of the Sun and Stars for the Latitude

1774	Zenith Diſtance Interior Arch ° ′ ″	Exterior Arch G S V	+″	Exterior Arch reduced ° ′ ″	Double Altitude of the ☉ s L L	Barometer	Therm	Remarks, &c
♄ Dec. 24	61 27 52	65 2 9	9	61 28 28½				γ Orionis
	54 51 27	58 2 2	20	54 51 50				δ
	53 59 7	57 2 11	12	53 59 24		29,63	45	ε
	53 15 57	56 3 9	12	53 16 20				ζ
	62 41 5	66 3 15	23	62 41 39				α
☽ —— 26	32 13 52	34 1 17	7	32 14 9	115 34 35 / 115 33 27	29,56	49	☉ s L L {Dollond's Quadrant / Ramſden's do
	61 27 20	65 2 7	24	61 27 51				γ Orionis
	54 50 55	58 2 1	20	54 51 24				δ
	53 58 27	57 2 10	5	53 58 51		29,64	43	ε
	53 15 33	56 3 8	9	53 15 51				ζ
	62 40 51	66 3 14	18	62 41 8				α
♂ —— 27	31 43 0	33 3 10	7	31 42 57	115 29 40	29,55	51	☉'s U L

Obſervations at Chriſtmas Sound, Continued.

There being no convenient place within view of the Obſervatory, where I could fix up a proper mark for trying the line of collimation of the quadrant by, I took the following zenith diſtances of the ſummit of a diſtant mountain, and raiſed the ſtand of the quadrant juſt as much as its center was depreſſed by inverting it.

Quadrant direct. Interior Arch. °	′	″	Exterior Arch. G.	S.	V.	+″	Quadrant inverted and raiſed. Interior Arch. °	′	″	Exterior Arch. G.	S.	V.	+″
87	5	50	92	3	20	0	92	54	22	99	0	13	0
	5	30			19	21		54	52			14	0
	5	30			19	13		54	22			13	0
	5	33			19	17		53	52			12	0
	5	32			19	11		53	52			12	0
	5	30			19	13		54	52			14	6
	5	55			19	0		54	40			13	18
	5	25			18	14		53	52			12	6
	5	40			19	5		54	45			14	0
	5	30			19	0		54	35			13	8
	5	25			17	20		54	45			13	23

Zenith Diſtance of the Top of a more diſtant Hill.

88	40	56	94	2	11	23	91	19	0	97	1	19	22
	41	1			12	8		19	0			20	21
	41	3			12	3		18	50			19	31
	40	43			11	21		18	50			20	0
	40	40			11	25		18	50			20	0

The two firſt ſets make the error of the line of collimation —″½ for the interior, and —5″½ for the exterior arches of the Quadrant; and the two latter ſets make them +6″¼ and —1″¼ reſpectively: The means are +3″¼ and —3″¼.

Computations of the Latitude.

1774.	Latitude by the Interior Arch. ° ′ ″	Latitude by the Exterior Arch. ° ′ ″	By Hadley's Quadrant. ° ′ ″
☽ Dec. 26.	Ramſden's Quadrant		55 21 39
	Dollond's ditto		55 21 6
♂ —— 27	Ramſden's ditto		55 21 25
	The mean is		55 21 23
	By the Sun.		
☽ —— 26.	55 22 17	55 22 27¼	55 22 6¼
♂ —— 27.	55 21 55¼	55 21 46	
	By γ Orionis.		
♄ —— 24.	55 22 4	55 22 34	55 22 2
☽ —— 26.	55 21 33	55 21 57	
	By δ Orionis.		
♄ —— 24.	55 21 53	55 22 9	55 21 47
☽ —— 26.	55 21 22	55 21 44	
	By ε Orionis.		
♄ —— 24.	55 22 19	55 22 29	55 22 6
☽ —— 26.	55 21 39	55 21 57	
	By ζ Orionis.		
♄ —— 24	55 22 0¼	55 22 17	55 21 56
☽ —— 26.	55 21 37	55 21 48	
	By α Orionis.		
♄ —— 24.	55 22 16	55 22 44	55 22 19¼
☽ —— 26.	55 22 4	55 22 13¼	
	Mean of all		55 21 57 S.

Observations at Christmas Sound, Continued

Computations of the Clock's Rate of going

1774	Time of apparent Noon by the Clock	Syderial Time of apparent Noon	Clock too fast for Syderial Time	Clock gains on Syderial Time
	H	H ″		′ ″
♀ Dec 23	18 19 14 14	18 4 24,7	14 49,44	
				0 37,99
♄ —— 24	24 18 83	8 51,4	15 27,43	
				0 35,47
☽ —— 26	34 22,91	17 44,55	16 38,36	
				0 36,73

If the difference between the first and last Observations be taken, and divided by 3, the number of days between, the Clock again each day, on Syderial Time will be only 36″31 Mr Kendall's Watch appeared to be gaining, when here, at the rate of 12″,377 in 24h on mean time

Lunar Observations for the Longitude of the Place

1774	Time by the Clock	Apparent Time	True Zenith Distance of ☉'s center	Zenith Distance of ☽'s U L	Distance of the ☉ and ☽'s Limbs	Error of the Quadrant	Barom	Thermom	Longitude East	Remarks
	H ′	H	′	′	° ′	′ ″				
☽ Dec 26	11 50 10			56 39⅛	87 1½					
	51 51			35⅜	87 0¼					
	53 16			31⅜	87 0					
	54 26			29	86 59¾					
	55 25	17 17 44	76 39⅛	26½	59	+4 1	29,64	46	289 55 0	Dollond's Quad Hazy
	56 29			23½	59					
	57 42			20	58½					
	58 26			18	58					
	59 25			16¼	57⅝					
	12 0 25			13⅜	57					
	12 3 16			56 8	87 0¾					
	4 29			5¼	87 0					
	5 19			4	87 0					
	6 14			2	86 59½					
	7 10	17 29 32	75 2⅛	56 0	59	+1 0	29,64	46	290 27 45	Ramsden's Quad Hazy
	8 5			55 58	59					
	9 4			56	58½					
	9 52			54	58¼					
	10 42			52½	58					
	11 51			50	57½					

Obſervations at Chriſtmas Sound, Continued.

Lunar Obſervations for the Longitude of the Place.

1774.	Time by the Clock.	Apparent Time.	True Zenith Diſtance of ☉'s center.	Zenith Diſtance of ☽'s U. L.	Diſtance of the ☉ and ☽'s Limbs.	Error of the Quadrant.	Barom.	Thermom.	Longitude Eaſt.	Remarks.
	H ′ ″	H ′ ″	° ′	° ′	° ′	′ ″			° ′ ″	
☽ Dec. 26.	13 29 49			55 38½	86 30					
	31 14			40½	29½					Ramſ-
	32 12	18 53 39	63 25	42	29¼	+1 0	29,60	47	290 43 30	den's
	32 56			43½	29					Quad.
	34 3			45¼	28½					
	13 36 38			55 49½	86 22⅓					
	37 29			51	22¼					
	38 18½	19 0 15	62 29	52⅔	22	+4 2	29,60	47	289 43 0	Dollond's
	39 4			54	21¾					Quad.
	39 46			55⅝	21¼					
	40 35			56¾	21					

The mean reſult of theſe four is 290° 16′ 25″. The mean of ten Obſervations taken before we arrived here, and reduced to the place by Mr. Kendall's Watch, gave the Longitude of the Obſervatory 289° 52′ 52″; ſeven taken after leaving the place gave 289° 42′ 12″: the mean of the three is 289° 57′ 9″½ E.

Observations at Christmas Sound, Continued

Observed Azimuths of the Sun's Center for the Variation of the Compass

1774	Zenith Distance of the ☉'s U L	Azimuth of the ☉'s center	Variation East
	° ′	° ′	
	Gregory's Compass		
♀ Dec 23	62 11⅙	S 67 15 W	
	62 20½	66 10	
	62 25¼	68 45	
	62 31¾	65 15	20 59
	62 45½	63 45	
	63 39	64 20	
	64 3	69 35	
	Knight's Compass		
♄ — 24	64 27¾	S 61 50 W	
	64 44	60 30	
	64 50	59 55	
	65 1½	59 45	23 54½
	65 9¾	59 45	
	65 17⅙	59 25	
	Gregory's Compass		
	65 38	S 57 20 W	
	65 43⅙	54 20	
	65 56½	56 10	27 17
	66 11	54 35	

1774	Zenith Distance of the ☉'s U L	Azimuth of the ☉'s center	Variation East
	Knight's Compass		
☉ Dec 25	63 36¼	N 68 35 E	
	63 30¾	68 45	24 2 [illegible]
	63 21¼	68 50	
	62 32¼	N 68 25 E	
	62 24¼	68 0	24 13[illegible]
	62 19	67 55	
☽ — 26	70 5	N 80 15 E	
	69 53½	80 0	
	69 40	79 55	
	69 38	79 30	22 51[illegible]
	69 30	79 15	
	69 25	79 5	
	Gregory's Compass		
	68 35	N 73 55 E	
	68 21	75 50	
	68 15½	76 5	
	68 3½	77 0	25 23
	67 52¾	76 50	
	67 46	72 0	

The disagreement which is found amongst these variations is not to be attributed to any mistake in the Observations, for the Compasses, and especially that of Gregory's, would, while here point frequently five, six, and sometimes even eight and 10 degrees different when directed to the same object I cannot assign any reason for this strange circumstance; the Compasses performed well enough both before and after leaving the place

Observations for the Dip of the Needle's South End

1774	Face of the Instrument East	Face of the Instrument West
	° ′	° ′
♃ Dec 22	66 20	68 0
	66 50	67 0
	Changed the Poles	
	68 25	67 0
	6[illegible] 40	66 55
	6[illegible] 0	66 45
	69 10	66 30

1774	Face of the Instrument East	Face of the Instrument West
	Altered the Balance	
♀ Dec 23	65 05	66 15
	65 35	65 50
	65 25	66 05
	Changed the Poles	
	67 10	66 15
	67 35	67 15
	66 40	67 15

1774	Face of the Instrument East	Face of the Instrument West
	° ′	° ′
	Changed the Poles	
♀ Dec 23	67 50	67 30
	67 45	66 55
	67 20	67 0
	Changed the Poles	
	65 40	66 20
	67 15	66 50
	66 25	6[illegible] 25

The mean of all is 66 5[illegible]

Obſervations at Chriſtmas Sound, Continued.

Obſervations on the Tides.

1774.	Time by the Clock. H ′	Apparent Time. H ′	Height of the Water. F. I.	Remarks, &c.
♃ Dec. 22.			0 6¼	Low Water.
	23 15		1 10	
	23 32		2 0	
	0 30¼	6 15¼	2 4½	High Water.
	1 16		2 0	
	1 40		1 10	
	10 40		3 4	
	10 56		3 7	
	11 14¼	17 26¼	3 8¼	High Water.
	11 30		3 7	
	12 8		3 4	
	The mark was diſturbed by the boats.			
♀ —— 23.			0 5	Low Water.
	22 36		1 9	
	23 43		2 4	
	0 2		2 5¼	
	0 13		2 6¼	
	1 37⅔	7 17½	2 8¼	High Water.
	3 2		2 6¼	
	3 15		2 5¼	
	3 31		2 4	
	11 15		3 8½	
	11 40		3 9	
	12 19¾	17 56¼	3 10	High Water.
	13 7		3 9	
	13 12		3 8½	
	15 53		2 3	
	16 28		1 11	
	16 42		1 7¼	
♄ —— 24.	19 47⅔	1 23$\frac{1}{12}$	0 5¼	Low Water.
	22 50		1 7½	
	23 15		1 11	

1774.	Time by the Clock. H ′	Apparent Time. H ′	Height of the Water. F. I.	Remarks, &c.
♄ Dec. 24.	23 38		2 3	
			3 3	High Water, Evening
			4 4¾	Ditto, Morning.
☉ —— 25.			1 3¼	Low Water.
			4 1	High Water, Evening.
	The mark was again diſturbed by the boats.			
	18 14		2 4¼	
	18 33		2 2	
☽ —— 26.	18 50		1 11¼	
	19 4		1 10	
	19 20		1 9	
	21 20½	2 45¼	1 2	Low Water.
	23 28		1 9	
	23 40		1 10	
	23 50		1 11½	
	0 6		2 2	
	0 20		2 4½	
	2 40		3 5	
	2 56		3 6	
	3 51½	9 15	3 9	High Water.
	4 45		3 6	
	5 5		3 5	
	12 15		3 0	
	12 30		3 1¼	
	12 45		3 2¼	
	13 20		3 4¼	
	15 8½	21 29½	3 10¼	High Water.
	17 7		3 4¼	
	17 30		3 2¼	
	17 40		3 1¼	
	18 0		3 0	
♂ —— 27.			1 2½	Low Water.

From theſe Obſervations, it appears that the Moon paſſes the meridian about 2½ hours before it is high water at this place: Mean height of the morning tides, three feet $1\frac{1}{7}$ inches, the Moon being then above the horizon; the mean evening tide was two feet ſeven inches.

Observations made at the Cape of Good Hope

1775	Equal Altitudes Times by the Clock B: Lower Wire	Middle Wire	Upper Wire	Zenith Distance	Azimuth of ☉'s center from the North at the times of equal Altitudes: Lower Wire	Middle Wire	Upper Wire	Time of apparent Noon by the Clock	Phenomena and Remarks
	′ ″	H ′ ″	″	° ′	° ′		′	H ′	
♃ March 23	2 6¼	17 4 19¼	6 31½	71 40 0					☉'s U L
	4 51½	7 2	9 13¼						☉'s L L
	29 3¼	17 31 17	33 31½	66 20 0					☉'s U L } Easterly
	31 49	34 4½	36 17½						☉'s L L
♀ — 24								21 33 15,73	
	34 16½	1 32 2½		66 20 0					☉'s L L
	37 2¼	34 49	32 36¼						☉'s U L
	1 13	1 59 2¼	56 53	71 40 0					☉'s L L } Westerly
	3 57½	2 1 46½	59 36						☉'s U L
	34 54	17 37 10½	39 23½	66 0 0					☉'s U L } Easterly
	37 41½	39 57¼	42 10½						☉'s L L
♄ — 25								21 36 12,22	
	34 17½	1 32 2		66 0 0					☉'s L L } Westerly
		34 49	32 35½						☉'s U L
	54 42½	17 56 58	59 15½	63 0 0					☉'s U L } Easterly
	57 31½	59 49½	2 8						☉'s L L } Very hazy
☉ — 26								21 39 7,95	
	20 19	1 18 1½							☉'s L L } Westerly;
	23 10½	20 53	18 36½	63 0 0					☉'s U L } Cloudy

In the morning I found the Clock had stopped; occasioned by the thickness of a new glass which I had got put before its face the old one being broke in taking down the Clock at Otaheite

1775	Lower Wire	Middle Wire	Upper Wire	Zenith Distance	Az. Lower Wire	Az. Middle Wire	Az. Upper Wire	Time of apparent Noon by the Clock	Phenomena and Remarks
	39 20½	20 41 39½	43 56½	63 0 0					☉'s U L
	42 13	14 31½	46 49½						☉'s L L } Easterly
	51 44½	20 54 5½		60 40 0					☉'s U L
	54 39½	57 0½							☉'s L L
☽ — 27								0 22 28 6	
	49 55½	3 47 32	45 12	60 40 0					☉'s L L
		50 28½							☉'s U L
	2 19½	4 0 1½	57 43½	63 0 0					☉'s L L } Westerly
	5 12		0 36						☉'s U L
	40 6½	20 42 24	44 41½	63 40 0					☉'s U L
		45 15½	47 33						☉'s L L } Easterly
	50 42	20	55 21½	61 40 0					☉'s U L
	53 35½	55 55½	58 16						☉'s L L
♂ — 28								0 25 24,71	
	56 48½	3 54 30½	52 8½						☉'s L L
	59 42½	57 23½	55 5½	61 40 0					☉'s U L } Westerly
	7 26½	4 5 8							☉'s L L
	10 18½	8 0½	5 43½	63 40 0					☉'s U L
	55 59½	20 57 21	59 41½						☉'s U L } Easterly
	57 54½	21 0 16	2 37	61 40 0					☉'s L L
☿ — 29								0 28 19,36	
	58 19½	3 55 58½	53 37½	61 40 0					☉'s L L } Westerly
	1 14½	58 53½	56 34½						☉'s U L
	38 ½	20 40 21	42 38						☉'s U L } Easterly,
	40 54	43 13	45 30½	6, 40 0					☉'s L L
♃ — 30								0 31 14 19	
	21 8½	4 18 51	16 33						☉'s L L } Westerly
	24 0½	21 42	19 26	65 40 0					☉'s U L
	35 21	20 37 37½	39 5½						☉'s U, L } Easterly
	38 8	40 26½	42 42½	67 0 0					☉'s L L
♀ — 31								0 34 10,68	

Obſervations at the Cape of Good Hope, Continued.

1775.	Equal Altitudes. Times by the Clock B. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diſtance.	Azimuth of ☉'s center from the North, at the times of equal Altitudes. Lower Wire.	Middle Wire.	Upper Wire.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	′ ″	H ′ ″	′ ″	° ′ ″	° ′	° ′	° ′	H ′ ″	
♀ March 31.	29 46¼	4 27 29½	25 13	67 0 0					☉'s L. L. } Weſterly.
	32 36	30 19:	28 4						☉'s U. L.
		20 43 32¼	45 49½	66 40 0					☉'s U. L. } Eaſterly.
	44 4¼	46 22½	48 41						☉'s L. L.
♄ April 1.								0 37 5,75	
	29 40½	4 27 22¼	25 5½	66 40 0					☉'s L. L. } Weſterly.
	32 31	30 17	27 57½						☉'s U. L.
	31 32½	20 33 48½		69 20 0					☉'s U. L. } Eaſterly.
	34 21½	36 38	38 54						☉'s L. L.
	45 27½	20 47 45½	50 2½	66 40 0					☉'s U. L.
	48 18½	50 37:	52 56						☉'s L. L.
☉ —— 2.								0 40 0,27	
	31 16	4 28 57½	26 40	66 40 0					☉'s L. L. } Weſterly.
	34 8½	31 50	29 32½						☉'s U. L.
		4 42 58	40 41½	69 20 0					☉'s L. L.
	48 2½	45 46	43 32½						☉'s U. L.
♂ —— 4.	6 12½	21 8 55	11 35½	54 40 0					☉'s U. L. } Eaſterly.
	9 32½	12 16	14 58½						☉'s L. L.
☿ —— 5.								0 48 46,31	
	27 57	3 24 52½	22 9	54 40 0					☉'s L. L. } Weſterly.
	30 58	28 16	25 34			89 10	88 30		☉'s U. L.
	43 0½	20 45 17½	47 34	70 20 0	89 0	88 25	87 45		☉'s U. L. } Eaſterly.
	45 49½	48 6½	50 24½		86 20	86 45	86 15		☉'s L. L.
	57 3½	20 59 23½	1 43	67 40 0	86 45	86 15	85 55		☉'s U. L.
	59 56	21 2 17½	4 36½						☉'s L. L.
♃ —— 6.					Var.	21 32¼	Weſt.	0 51 40,5	
	42 57½	4 40 38½		67 40 0	43 30	42 30			☉'s L. L. } Weſterly.
	45 52	43 31½	41 12½		43 50	43 35	42 30		☉'s U. L.
	57 6½	4 54 46½	52 31	70 20 0	45 55	45 40	45 5		☉'s L. L.
	59 56	57 39½	55 21			46 0	45 50		☉'s U. L.
	55 54½	20 58 10½	0 35:	68 40 0					☉'s U. L. } Eaſterly.
	58 49½	21 1 8½	3 28½						☉'s L. L.
	10 14½	21 12 36½	14 57½	66 0 0					☉'s U. L.
	13 8½	15 32½							☉'s L. L.
♀ —— 7.								0 54 37,38	
	35 41	4 33 18	30 56	66 0 0					☉'s L. L. } Weſterly.
	38 36½	36 15	33 53½						☉'s U. L.
	49 57½	4 47 40½	45 21	68 40 0					☉'s L. L.
		50 32	48 14½						☉'s U. L.
♄ —— 8.	55 37	20 57 55	0 12½	70 20 0					☉'s U. L. } Eaſterly.
	58 27	21 0 45	3 4½						☉'s L. L.
	9 49:	21 12 11½	14 32	67 40 0					☉'s U. L.
	12 44½	15 7½	17 27½						☉'s L. L.
☉ —— 9.								1 0 32,08	
	47 54½	4 45 33½	43 11½	67 40 0					☉'s L. L. } Weſterly.
	50 52½	48 28½	46 8½						☉'s U. L.
	2 11	4 59 50½	57 32	70 20 0					☉'s L. L.
	5 1½	5 2 43	0 24½						☉'s U. L.
	6 54	21 9 16½	11 35½	69 0 0					☉'s U. L. } Eaſterly.
	9 48½	12 10½	14 31:						☉'s L. L.
☽ —— 10.								1 3 29,16	
	56 43	4 54 22½	52 2½	69 0 0					☉'s L. L. } Weſterly.
	59 38	57 17	54 57						☉'s U. L.

Obſervations at the Cape of Good Hope, Continued

1775	Equal Altitudes Times by the Clock B: Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Azimuth of the ☉'s Center from the North at the Times of equal Altitud: Lower Wire	Middle Wire	Upper Wire	Time of Apparent Noon by the Clock	Phenomena and Remarks
	′ ″	H ′ ″	′ ″	° ′ ″	° ′	°	°	H ′ ″	
☿ April 12	17 54¾	21 20 20	22 42	69 20 0					☉'s U L Eaſterly
	20 53	23 15½	25 39						☉'s L L
	32 54¼	21 35 0	37 25½	66 40 0					☉'s U L
	35 33½	38 0½	—						☉'s L L
♃ — 13	49 1½	4 46 35	44 7½	66 40 0				1 12 29,72	☉'s L L Weſterly
	52 1	49 35	47 10						☉'s U L
	3 39	5 1 18	58 55½	69 20 0					☉'s L L
	6 36¼	4 12¾	1 51¾						☉'s U L
♀ — 14	21 8¼	21 23 30½	—	70 20 0					☉'s U L Eaſterly
	24 3½	26 26½	28 49½						☉'s L L
♄ — 15	12 30½	5 10 7¾	7 45	70 20 0				1 18 29 49	☉'s L L Weſterly
	15 24	13 3	10 42						☉'s U L
	The Clock ſtopped again to day for a few ſeconds by the glaſs preſſing againſt the minute hand								
☉ — 16	37 15½	22 40 4	42 52½	58 40 0					☉'s U L Eaſterly
	40 43	43 33¼	—						☉'s L L
☽ — 17	6 41½	4 3 51½	1 1½	58 40 0				1 23 54,4	☉'s L L Weſterly
	10 9¼	7 21	4 33½						☉'s U L
	24 4½	23 27 31½	30 58	58 40 0					☉'s U L Eaſterly
	28 18¼	31 47½	35 17½						☉'s L L
♂ — 18	—	3 21 37	18 7	52 40 0				1 26 54,84	☉'s L L Weſterly
	—	25 58	32 29						☉'s U L
	39 32½	21 —	44 21	70 0 0					☉'s U L Eaſterly
	42 30	21 44 56	47 21						☉'s L L
	52 36	21 55 4¼	57 31	67 40 0					☉'s U L
	55 40	—	0 16						☉'s L L
☿ — 19	3 53	5 1 [illegible]	58 55	67 40 0				1 29 58 52	☉'s L L Weſterly
	6 59¼	4 27½	2 1						☉'s U L
	17 1	5 14 35	12 11	70 0 0					☉'s L L
	20 2½	17 35½	15 11½						☉'s U L
	55 4	21 57 34½	0 3	68 0 0					☉'s U L Eaſterly
	58 7½	22 0 38	3 6						☉'s L L
♃ — 20	—	5 4 56	2 29	68 0 0				1 32 59,05	☉'s L L Weſterly
	10 29	7 57½	5 33						☉'s U L
♄ — 22	6 17½	22 8 48¼	11 18	68 20 0					☉'s U L Eaſterly
	9 22	11 53½	14 24½						☉'s L L
☉ — 23	14 26	5 11 54¼	—	68 20 0				1 42 6,37	☉'s L L Weſterly
	17 32½	15 11	12 31						☉'s U L

The Clock was fixed up in the uſual manner

The pendulum vibrated 1°½ each way from the perpendicular, until April 9, after which its vibrations were 1°¼ each way until it was taken down

Obſervations at the Cape of Good Hope, Continued.

Obſerved Times of the tranſits of the Sun, Moon, and Stars, over the Meridian.

1775.	Times by the Clock B. First Wire. ′ ″	Second Wire. ′ ″	Middle Wire. H ′ ″	Fourth Wire. ′ ″	Fifth Wire. ′ ″	Phenomena.
☉ March 26.	33 23¼	34 5¼	21 34 48	35 31		☉'s 1ſt Limb.
		36 14	36 56¼	37 39½	38 21¼	☉'s 2d Limb.
	Moved the ſtand of the Inſtrument a ſmall matter, ſo as to carry it to the weſtward, and fixed it very firmly.					
☽ —— 27.	20 9½	20 51½	0 21 34½	22 17¼	——	☉'s 1ſt Limb.
	——	23 0½	0 23 43	24 26¼	25 8¾	☉'s 2d Limb.
	Moved the Inſtrument, by means of the ſcrew, to the eaſtward.					
	31 54½	32 38	6 33 23	34 7¼	34 51	Syrius.
	24 17	24 59¼	7 25 42	26 25	27 7	Procyon.
♂ —— 28.	23 1½	23 43	0 24 25¾	25 9		☉'s 1ſt Limb.
		25 52¼	0 26 34¾	27 17½	27 59½	☉'s 2d Limb.
	59 48½	0 31¼	5 1 14	1 58	2 39¼	Rigel.
	39 5½	39 47¾	5 40 29¾	41 14½	41 55¼	α Orionis.
	31 12½	31 56¼	6 32 41	33 26	34 9	Syrius.
	16 4½	16 54	7 17 44	18 35¼	19 24½	Caſtor.
	23 34	24 16½	7 24 59	25 42½	26 24½	Procyon.
	27 26	28 13½	7 29 1¾	29 51	30 38½	Pollux.
		36 12	19 36 55	37 38¼		α Aquilæ.
	52 54½	53 38	22 54 21¼	55 6½	55 48½	☽'s 2d Limb.
☿ —— 29.		26 37¼	0 27 20			☉'s 1ſt L. } Capt. Cook
			0 29 29½	30 12½		☉'s 2d L. }
	59 5¾	59 48	5 0 31	1 14¼	1 56¼	Rigel.
		39 4½	5 39 47½	40 31		α Orionis.
	30 29¾	31 13¼	6 31 58	32 42½	33 26	Syrius.
			19 36 11			α Aquilæ; cloudy.
♃ —— 30.	28 50½	29 32	0 30 14½	30 58½		☉'s 1ſt L. } Cloudy.
		31 41¼	0 32 24¼	33 7½	33 48¾	☉'s 2d L. }
	37 38½	38 21¼	5 39 4	39 47	40 29	α Orionis.
	29 46¼	30 30	6 31 14¾	31 59¼	32 42½	Syrius.
	Moved the Inſtrument a little more to the eaſtward, by means of the horizontal ſcrew.					
♀ —— 31.	31 43¼	32 24¼	0 23 8	33 51	34 33	☉'s 1ſt Limb.
	33 52	34 33¼	0 35 17	36 0¼	36 42½	☉'s 2d Limb.
♄ April 1.	34 38½	35 21	0 36 3¼	36 47	37 28¼	☉'s 1ſt Limb.
	36 47½	37 30	0 38 13	38 56	39 37½	☉'s 2d Limb.
	13 8	13 57	7 14 47¼	15 39	16 28	Caſtor.
	20 39½	21 22½	7 22 4½	22 48	23 29½	Procyon.
			7 26 5¼			Pollux.
	9 37	10 19½	9 11 2¼	11 46	12 27¼	α Hydra.
		50 9	9 50 52¾	51 37		Regulus.

Observations at the Cape of Good Hope, Continued

Observed Times of the Transits of the Sun, Moon, and Stars over the Meridian

1775	Times by the Clock B — First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena
	′	″	H ′	″		
☉ April 2	37 32¾	38 15	0 38 57¾	39 41		☉'s 1st Limb
		40 24½	0 41 7¼	41 50¼	42 31¾	☉'s 2d Limb
	27 52¾	28 36	2 29 20¼	30 5	30 48¼	☽'s 1st Limb
	15 28½	16 12½	4 16 56½	17 41	18 24¼	Aldebaran
		56 54	4 57 36¾	58 20		Rigel
	35 27	36 9¾	5 36 52¼	37 36	38 17½	α Orionis
	27 36	28 19½	6 29 4	29 48¾	30 32¼	Syrius
	12 23½	13 12½	7 14 3½	14 54½	15 43¼	Castor
	19 55¾	20 37¾	7 21 20¼	22 3½	22 45	Procyon
		24 33	7 25 21¼	26 10¼		Pollux
☽ — 3	40 28½	41 10	0 41 53	42 36¼		☉'s 1st L. } Cloudy
		43 19	44 2¼	44 45¼	45 25¼	☉'s 2d L. } Cloudy
♂ — 4	43 23½	44 6	0 44 48¾	45 31½		☉'s 1st L. } Cloudy
		46 15¼	0 46 58½	47 41¾	48 23¼	☉'s 2d L. } Cloudy
☿ — 5	46 19½	47 1¼	0 47 44	48 27¼		☉'s 1st L. } Cloudy
		49 11	0 49 53½	50 36¼	51 18¼	☉'s 2d L. } Cloudy
	13 19½	14 3	4 14 47¾	15 32¼	16 15¼	Aldebaran
	54 2½	54 44¾	4 55 27½	56 11¼	56 53	Rigel
	5 41¾	6 27	5 7 13	7 59½	8 44	☽'s 1st Limb
	33 17¾	34 0¼	5 34 44	35 20¼	36 8¼	α Orionis
	25 27	26 11	6 26 55½	27 40	28 23	Syrius
	10 13¾	11 3½	7 11 54	12 44½	13 34	Castor
	17 46	18 28¼	7 19 11	19 54¾	20 36	Procyon
		22 23½	7 23 12	24 1½		Pollux
♃ — 6	49 14½	49 56½	0 50 39	51 39		☉'s 1st Limb
		52 5¾	52 48½	53 32¼	54 13¼	☉'s 2d L.
	12 36¾	13 19½	4 14 3¾	14 48¼	15 31¼	Aldebaran
	32 34	33 15¾	5 33 59½	34 43	35 25¼	α Orionis
	57 43¾	58 29	5 59 15¼	0 2½	0 46½	☽'s 1st Limb
		25 27¼	6 26 11¾	26 57		Syrius
	9 29¾	10 19¼	7 11 9¾	12 1	12 50	Castor

On examining the Transit Instrument this morning, I found that the level shewed the west end to be a small matter the highest. Adjusted it, and moved the Instrument a little more to the eastward as well to be nearer the plane of the Meridian, as to make the middle wire coincide with the sharp edge of a cliff in the Table Mountain which being seen against the sky, formed a much better Meridian Mark than what I had before.

1775	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena
♀ — 7			0 53 33¾	54 16¼	54 59	☉'s 1st L. } Cloudy
	54 18	55 0½	0 55 42¾			☉'s 2d L. } Cloudy
♃ — 8	52 34¾	53 17¼	4 54 0¼	54 43¼	55 25¾	Rigel
		0 52¼	5 1 40¾	2 29¾		β Tauri

Obſervations at the Cape of Good Hope, Continued

Obſerved Times of the Tranſits of the Sun, Moon, and Stars, over the Meridian

1775	Times by the Clock B: First Wire ′	Second Wire ″	Middle Wire H	Fourth Wire	Fifth Wire	Phenomena, &c
♄ April 8	31 8¾	31 51	5 32 34	33 17½	33 59	α Orionis
	8 4½	8 54½	7 9 44¾	10 36	11 25	Caſtor } Captain Cook
	15 37	16 19¼	7 17 2¼	17 45	18 27	Procyon } Captain Cook
	19 27	20 14½	7 21 3½	21 52½	22 39½	Pollux
		36 38½	7 37 23½	38 9½		Supoſed ω Cancri
	39 53	40 38¼	7 41 24½	42 11¼	42 55½	☽'s 1ſt Limb
	46 22¼	47 6	7 47 50	48 34½	49 17½	ζ Cancri
	4 35	5 17¾	9 ———	6 44	7 26	α Hydræ
	44 23½	45 6	9 45 50	46 34½	47 17	Regulus

At 11 h 37′ 36″½ by the clock, ζ Cancri immerged behind the Moon's dark Limb. It was very hazy; but the Obſervation may, I think, be depended on. The moon ſet behind the high lands to the weſtward, before the emerſion.

1775	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena, &c
☉ —— 9	58 9¾	58 45¼	0 59 28½	0 11¾		☉'s 1ſt Limb
		0 55	1 1 38½	2 22	3 3½	☉'s 2d Limb
	14 55½	15 37½	7 16 20½	17 4	17 45¼	Procyon
	18 45	19 32½	7 20 21	21 10½	21 57¾	Pollux
	29 46½	30 31	8 31 16½	32 2½	32 46¼	☽'s 1ſt Limb
			8 33 47½			2d ο Cancri

At 9 h 14′ 57″½ 2da ad ο Cancri immerged behind the ☽. It was hazy, and ſtrong wind, which ſhook the Teleſcope much; but I think the Obſervation pretty good. I could not ſee the emerſion.

1775	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena, &c
	43 41¼	44 21¼	9 45 8¼	45 52½	46 35	Regulus
☽ —— 10	1 0	1 42½	1 2 25⅞	3 9½		☉'s 1ſt Limb
		3 52½	4 35¼	5 19½	6 1	☉'s 2d Limb
	14 12¾	14 55	7 15 38	16 21½	17 3½	Procyon
		15 33¼	7 16 16½	17 0		Small ✱ following Procyon
	18 1	18 49	7 19 38	20 27	21 14½	Pollux
		3 53½	9 4 36	5 19½		α Hydræ
		16 28	9 17 11½	17 55½		ο Leonis
	18 53½	19 37	9 20 21⅞	21 7½	21 51	☽'s 1ſt Limb
	4 59	43 41¼	9 44 25½	45 9¼	45 52½	Regulus
		24 49½	11 25 35	26 20		β Leonis
♂ —— 11			7 7 33½			Caſtor
	13 32	14 14	7 14 56½	———	16 22	Procyon
☿ —— 12	6 57¾	7 40	1 8 23¾	9 7½		☉'s 1ſt Limb
		9 52	1 10 33½	Cloudy		☉'s 2d Limb
	1 50	2 32¼	9 3 15¼	3 59½	4 40¾	α Hydræ Cloudy
	55 57	56 40	10 57 24½	58 8	58 50	☽'s 1ſt L Exceeding foggy and cloudy

♃	In the morning I found that the Tranſit Inſtrument deviated from the mark about the breadth of the wire. Re adjuſted it.

Obſervations at the Cape of Good Hope, Continued

Obſerved Times of the Tranſits of the Sun, Moon, and Stars, over the Meridian

1775	Times by the Clock B					Phenomena, &c
	Firſt Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	′ ″		H ′ ″			
♃ April 13	9 59¼	10 41	1 11 24¼			☉'s 1ſt Limb
			13 34¾	14 18	15 0½	☉'s 2d Limb
			6 21 21			Syrius
		5 28½	7 6 18¼	7 9¼		Caſtor
		12 54	7 13 37	14 20½		Procyon
			7 17 37¼			Pollux
	1 10¼	1 52¼	9 2 35½	3 19	4 1	α Hydræ
			11 24 58¼			β Virginis
	44 44¼	45 26½	11 46 11	46 55	47 37	☽'s 1ſt Limb Foggy
	57 53½		12 59 10¼	0 4	0 45½	Spica ♍ Very foggy
☿ —— 14	12 59	13 41¼	1 14 25			☉'s 1ſt Limb
			16 34¾	17 18¼	18 0¼	☉'s 2d Limb
	3 58¼	4 47½	7 5 36¼	6 29½	7 18½	Caſtor
		12 14	7 12 56½	13 40		Procyon
			7 16 56¼			Pollux
		1 12	9 1 56½	2 39		α Hydræ
	22 53¼	23 36	11 24 18¼	25 2	25 43½	β Virginis
			12 36 50			ι Virginis
	57 14	57 56¼	12 58 39½	59 23	0 16	Spica Virginis
♄ —— 15		16 42½	1 17 25¼	18 9¼		☉'s 1ſt Limb
		18 52¾	19 36	20 19½		☉'s 2d Limb
	3 18	4 7¼	7 4 58	5 49	6 38	Caſtor
			7 12 16¼			Procyon
			9 1 15			α Hydræ
	56 33¼	57 15	12 57 59¼	58 43½	59 25½	Spica Virginis
	25 33	26 16¼	13 27 0	27 41		☽'s 1ſt L 2h 18 paſt the 8
		28 26¾	29 10½	29 55	30 37	☽'s 2d Limb
	48 30	49 14	13 49 59½	50 45½	51 30	Arcturus
		Clock ſtopped near a minute				
☉ —— 16	18 22⅞	19 5¼	1 19 48½			☉'s 1ſt Limb
			21 58	22 42½	23 24½	☉'s 2d Limb
☽ —— 17	21 23⅞	22 6	1 22 49¼	23 24		☉'s 1ſt Limb
		24 16	24 59¾	25 43	26 26	☉'s 2d Limb
♂ —— 18	Clouds	6 57	15 5 45	8 23¾	Clouds	α Cor Bor
		1 25½	7 2 20	3 11		Caſtor
		8 5½	7 9 37½	10 20½		Procyon
			7 13 38¼			Pollux
	36 58½	37 41	9 38 25	39 9½	39 52	Regulus
	45 58	56 44¾	15 57 32½	38 20½	59 6½	Antares
		58 43	15 59 30¼	0 18¼		Small * following Antares
	2 13½	3 0	16 3 48½	4 37	5 24	τ Scorpii

Obſervations at the Cape of Good Hope, Continued.

Obſerved Times of the Tranſits of the Sun, Moon and Stars over the Meridian.

1775.	Times by the Clock B. First Wire. ′	″	Second Wire. ′	″	Middle Wire. H	′	″	Fourth Wire. ′	″	Fifth Wire. ′	″	Phenomena, &c.
♂ April 18.	14	1	14	46:	16	15	32½	16	17½	Clouds.		☽'s 2d Limb.
	4	54¾	5	36¾	17	6	21½	7	5½	7	48	α Ophiuchi.
☿ —— 19.	27	27¾	28	10	1	28	53¾					☉'s 1ſt Limb.
						31	4⅛	31	48¼	32	30⅝	☉'s 2d Limb.
	59	58	0	47¼	7	1	38½	2	29	3	18⅓	Caſtor.
	7	31½	8	14:	7	8	56¼	9	40	10	22	Procyon.
	11	20	12	8½	7	12	56½	13	45¾	14	33	Pollux.
	4	12½	4	55¼	17	5	39	6	23¼	7	6	α Ophiuchi.
	8	9:	8	50½	17	9	33⅛	10	16⅛	10	58	†
	14	8¾	14	54¼	17	15	40⅛	16	27	17	12	☽'s 2d Limb.
			26	4¼	17	26	48¾	27	34			These three Stars are in the teleſcope together,
	27	59¾	28	43½	17	29	28	30	13			and nearly in the ſame parallel of declination; the middle one is (I believe) the 394th in La Ca-
			31	40¼	17	32	25	33	10			ille's Catalogue.
			8	2	18	8	56⅓	9	52			Small * preceding α Lyræ.
	8	38	9	31⅓	18	10	26	11	21¼	12	14	α Lyræ.
♃ —— 20.	30	27½	31	10	1	31	53¾					☉'s 1ſt Limb.
						34	5	34	48½	35	31	☉'s 2d Limb.
	59	16½	0	6⅛	7	0	56⅓	1	47⅓	2	36½	Caſtor.
	6	49½	7	32¼	7	8	14½	8	57⅞	9	39½	Procyon.
	10	38½	11	26¼	7	12	15	13	4	13	51	Pollux.
♀ —— 21.					1	34	56⅛	35	39½			☉'s 1ſt Limb.
			36	22½		37	6½					☉'s 2d Limb.
			59	23⅓	7	0	14	1	5			Caſtor.
			6	49	7	7	32	8	15⅓			Procyon.
	9	56	10	43¾	7	11	32	12	21½	13	8½	Pollux.
♄ —— 22.	42	39			19	44	9½			45	39	1ma ad α } Capricorni.
			43	49	19	44	33⅓	45	18			2da ad α }
			46	26	19	47	10¼	47	54¾			Small * following them.
	17	23½	18	8⅓	20	18	53⅓	19	39⅓	20	23¼	☽'s 2d Limb.
☉ —— 23.	39	35½	40	18¾	1	41	2⅛	41	46⅞			☉'s 1ſt Limb.
			42	29⅓		43	13⅓	43	57¼	44	40	☉'s 2d Limb.
	16	7¾	16	51½	21	17	36½	18	20¾	19	5⅛	☽'s 2d Limb.
☽ —— 24.	42	40	43	23	1	44	6⅛	44	50½			☉'s 1ſt Limb.
			45	33¾		46	17½	47	1⅞	47	44⅛	☉'s 2d Limb.
♂ —— 25.	45	44¼	46	27:	1	47	10¾	47	55¼			☉'s 1ſt Limb.
			48	38		49	22⅛	50	6⅛			☉'s 2d Limb.

† This Star, as far as I can find, is not in any catalogue: it may be about the ſixth magnitude, and its zenith diſtance at the Cape, as ſhewn by the index of the tranſit inſtrument, was 33°. 30′, or thereabouts; conſequently its declination will be about 0° 26′ S. and its right aſcenſion 17 h. 29′ 21″⅓.

Obſervations at the Cape of Good Hope, Continued

Obſervations of Meridian Altitudes of the Sun and Stars

1775.	Zenith Diſtances Interior Arch ″	Exterior Arch G S V	+″	Exterior Arch reduced ′	Barom	Thermom I. D.	Thermom O.	Phenomena and Remarks
♀ April 7	41 2 4	43 3 3	15	41 2 30	29,98	76	75	☉'s L L
☉ — 9	41 14 45	44 0 0	17	41 15 17	30,01	72½	75	☉ U L
♂ — 11	17 30 0	18 2 21	16	17 30 7	29,87	70½	65	Syrius
	66 15 0	70 2 22	6	66 15 23½	29,87	70	65	Caſtor
	39 41 55	42 1 12	20	39 42 10	29,87	70	65	Procyon
☿ — 12	42 52 53	45 2 31	20	42 53 20	30,02	68+	69	☉'s U L
	19 58 5	21 1 6	0	19 57 57	30 04	69	63+	ζ Navis } Cloudy
	34 52 12	37 0 25	16	34 52 30	30,04	69	63¼	β — } Cloudy
♃ — 13	42 43 15	45 2 9	20	42 43 40	30,02	68½	68¼	☉'s U L
	43 15 27	46 0 18	22	43 15 46½				☉'s L L
	17 30 12	18 2 22	5	17 30 22½	29,98	69+	66	Syrius
	39 42 5	42 1 13	4	39 42 20½	29 97	69	64+	Procyon
	62 26 53	66 2 15	14	62 27 27	29,97	69	64	Pollux
	5 27 10	5 3 10	8	5 27 58	29,97	69	63	ζ Navis
	12 45 20	13 2 14	0	12 45 31½				γ
	19 57 45	21 1 6	10	19 58 7				δ
	34 51 20	37 0 23	17	34 51 38½				β
	24 34 22	26 0 27	16	24 34 38				η
♀ — 14	39 42 8	42 1 13	13	39 42 29½	30,01	67+	64	Procyon
	62 27 15	66 2 15	8	62 27 21				Pollux
	5 27 52	5 3 11	10	5 28 26	30,0	67	63	ζ Navis
	12 45 7	13 2 15	5	12 46 03				γ
	19 58 5	21 1 7	10	19 58 33				δ
	34 51 50	37 0 23	20	34 51 41½				β
♄ — 15	39 42 0	42 1 12	18	39 42 08	29,99	68½	64	Procyon
	62 26 57	66 2 15	23	62 27 36				Pollux
	34 52 0	37 0 25	8	34 52 22	29,97	68¼	63½	β Navis
☉ — 16	44 19 55	47 1 5	5	44 20 0½	30,0	67¼	69¼	☉'s L L
	5 27 37	5 3 11	6	5 28 22	29,94	68	64	ζ Navis
☽ — 17	5 26 50	5 3 9	0	5 27 23½	30,0	67¼	61+	ζ Navis
	12 45 8	13 2 14	10	12 45 41½	30,0	67+	61	γ
	19 57 50	21 1 6	6	19 58 3	30,0	67½	61¼	δ
	34 51 37	37 0 23	10	34 51 31½	30,01	68	61+	β
	24 34 38	26 0 27	22	24 34 44	30,01	67	61	η
♂ — 18	39 42 7	42 1 13	8	39 42 24½	30,18	66	63	Procyon
	5 26 30	5 3 9	10	5 27 33½				ζ Navis
	12 45 4	13 2 14	0	12 45 31½				γ
	19 58 0	21 1 7	8	19 58 31	30,18	66	62¼	δ
	34 51 5	37 0 23	7	34 51 28½				β
☿ — 19	45 22 15	48 1 19	8	45 22 32½	30,18	67	70	☉'s L L
	44 49 37	47 3 9	15	44 50 08½				☉'s U L
	34 52 0	37 0 25	5	34 52 19	30,0	69	69	β Navis
	24 34 15	26 0 27	22	24 34 44				η Navis

Obſervations at the Cape of Good Hope, Continued.

Obſervations for the Error of the Line of Collimation, made with the Board as formerly.

	Zenith diſtance of the upper hole: the quadrant direct.			Zenith diſtance of the lower hole: the quadrant inverted.		
	Interior Arch.	Exterior Arch.		Interior Arch.	Exterior Arch.	
	° ′ ″	G. S. V.	+″	° ′ ″	G. S. V.	+″
	87 49 22	93 2 22	13	92 11 27	98 1 10	22
	7	22	6	5	10	20
	20	22	16	15	10	20
	0	22	20	0	10	5
	20	22	13	20	10	15
	5	22	10	23	10	20
Means.	87 49 $12\frac{1}{3}$	93 2 22	$14\frac{1}{7}$	92 11 15	98 1 10	17
	87 49 0	93 2 22	12	92 10 30	98 1 9	6
	10	23	0	20	9	0
	0	23	0	38	9	18
	12	23	5	5	9	0
	0	22	16	30	9	16
	0	22	18	20	9	0
				50	9	20
Means.	87 49 $3\frac{1}{7}$	93 2 22	21,7	92 10 $27\frac{1}{2}$	98 1 9	$8\frac{1}{2}$
	87 48 52	93 2 22	6	92 10 38	98 1 10	11
	49 30	23	20	11 5	10	5
	48 45	22	5	11 0	10	0
	48 50	22	0	10 55	9	15
				10 40	10	8
	87 48 $59\frac{1}{4}$	93 2 22	$14\frac{1}{2}$	92 10 $51\frac{1}{2}$	98 1 10	$2\frac{1}{2}$

The Quadrant was inverted between every ſet, as the means are here taken, and of courſe the Obſervations give nine compariſons for each arch of the Quadrant; the mean reſult of which gives 1″,8 to be added to the interior arch, and $8''\frac{1}{3}$ to be ſubtracted from the exterior arch.

Obfervations at the Cape of Good Hope, Continued

Computations of the Latitude, from the foregoing Obfervations

1775	Latitude by Interior Arch ° ′ ″	Latitude by Exterior Arch ° ′ ″	Declination ° ′ ″
	By Obfervations of the Sun		
♀ April 7	33 55 48½	33 56 5	6 50 58 N
☉ —— 9	33 55 43¾	33 56 5	7 35 46
☿ —— 12	33 55 45¼	33 55 58	8 42 0
♃ —— 13	33 56 21	33 56 33	9 3 47
☉ —— 16	33 56 3	33 56 31	10 8 15
☿ —— 19	33 55 34½	33 55 49½	11 11 12½
	33 55 53⅓	33 56 10⅛	Means
	By Obfervations of Procyon		
♂ April 11	33 55 39	33 55 44	5 57 16 N
♃ —— 13	33 55 49	33 55 54½	
♀ —— 14	33 55 52	33 56 3½	
♄ —— 15	33 5 44	33 55 42	
♂ —— 18	33 55 51	33 55 58½	
	33 55 47	33 55 52½	Means
	By Obfervations of Pollux		
♃ April 13	33 55 45½	33 56 8½	28 33 01 N
♀ —— 14	33 56 6¼	33 56 2½	
♄ —— 15	33 55 48½	33 56 17½	
	33 55 53½	33 56 9½	Means
	By Obfervations of ζ Navis		
♃ April 13	33 55 48½	33 55 10½	39 2 43 S
♀ —— 14	33 55 6½	33 54 42½	
☉ —— 16	33 55 21½	33 54 46½	
☽ —— 17	33 56 10½	33 55 35	
♂ —— 18	33 56 8½	33 55 35½	
	33 55 43	33 55 10	Means
	By Obfervations of γ Navis		
♃ April 13	33 55 41½	33 55 39½	46 40 51 8 S.
♀ —— 14	33 55 54½	33 55 8½	
☽ —— 17	33 55 53½	33 55 29½	
♂ —— 18	33 55 57½	33 55 39½	
	33 55 51½	33 55 29⅓	Mean
	By Obfervations of δ Navis		
☿ April 12	33 55 20½	33 55 38½	53 53 24½ S
♃ —— 13	33 55 40½	33 55 28½	
♀ —— 14	33 55 20½	33 55 2½	
☽ —— 17	33 55 35½	33 55 32½	
♂ —— 18	33 55 25½	33 55 4	
	33 55 28½	33 55 21½	Mean

1775	Latitude by Interior Arch ° ′ ″	Latitude by Exterior Arch ° ′ ″	Declination
	By Obfervations of Syrius		
♂ April 11	33 55 57½	33 55 54½	16 25 18½
♃ —— 13	33 56 9½	33 56 10	
	33 56 3½	33 56 2½	Mean
	By an Obfervation of Caftor		
♂ April 11	33 55 38	33 55 51½	32 21 3 ½ N
	By Obfervations of β Navis		
☿ —— 12	33 55 11½	33 55 1½	68 47 41 S
♃ —— 13	33 56 2	33 55 53½	
♀ —— 14	33 55 31½	33 55 50½	
♄ —— 15	33 55 22	33 55 10	
☽ —— 17	33 55 45	33 56 0½	
♂ —— 18	33 56 17	33 56 0½	
☿ —— 19	33 55 22½	33 55 13½	
	33 55 38½	33 55 36½	Mean
	By Obfervations of ε Navis		
♃ April 13	33 55 58	33 55 52½	58 30 32 S
☽ —— 17	33 55 42½	33 55 46½	
☿ —— 19	33 56 5½	33 55 46½	
ε Navis	33 55 55½	33 55 48½	Mean
β ——	33 55 38½	33 55 36½	Ditto
δ ——	33 55 28½	33 55 21½	Ditto
γ ——	33 55 51½	33 55 29⅓	Ditto
ζ ——	33 55 43	33 55 10	Ditto
Southern ✱ s	33 55 43½	33 55 29	Mean
The Sun	33 55 53⅓	33 56 10⅛	Mean
Syrius	33 56 3½	33 56 2½	Ditto
Caftor	33 55 38	33 55 51½	Ditto
Procyon	33 55 47	33 55 52½	Ditto
Pollux.	33 55 53½	33 56 9½	Ditto
Northern ✱ s	33 55 51	33 56 1½	Mean
Southern ditto	33 55 43½	33 55 29	Ditto
Mean of both	33 55 47½	33 55 45 1/10	
	33 55 45 1/10	Exterior Arch	
	33 55 46½	S Latitude	
	33 55 42½	Meffrs Mafon and Dixon	
	33 55 29½	Abbe de la Caille.	
	33 55 30	Mr Bayley	

Obfervations at the Cape of Good Hope, Continued.

Computations of the Clock's Rate of going.

1775.	Time of apparent Noon by the Clock. H ′ ″	Syderial Time of apparent Noon. H ′ ″	Difference. ′ ″	Clock lofes. ″
♀ March 24.	21 33 15,73	0 13 18,71	160 2,98	
♄ —— 25.	21 36 12,22	0 16 56,71	160 44,49	41,51
☉ —— 26.	21 39 7,95	0 20 35,43	161 27,48	42,99
☽ —— 27.	0 22 28,60	0 24 13,24	1 44,64	
♂ —— 28.	0 25 24,71	0 27 51,13	2 26,42	41,78
☿ —— 29.	0 28 19,36	0 31 28,13	3 8,77	42,35
♃ —— 30.	0 31 14,19	0 35 07,13	3 52,97	44,20
♀ —— 31.	0 34 10,68	0 38 45,22	+ 34,54	41,57
♄ April 1	0 37 05,75	0 42 23,32	5 17,57	43,03
☉ —— 2.	0 40 0,27	0 46 01,61	6 01,34	43,77
☿ —— 5	0 48 46,31	0 56 57,19	8 10,88	43,18
♃ —— 6.	0 51 40,50	1 0 36,08	8 55,58	44,70
♀ —— 7.	0 54 37,38	1 4 15,08	9 37,70	42,12
☉ —— 9.	1 0 32,08	1 11 33,66	11 01,58	41,94
☽ —— 10.	1 3 29,16	1 15 13,34	11 44,18	42,60
♃ —— 13	1 12 29,72	1 26 14,0	13 44,28	40,3
♄ —— 15.	1 18 29,49	1 33 35,87	15 06,38	41,05
	Clock ftopped.			
☽ —— 17.	1 23 54,40	1 40 59,34	17 4,94	
♂ —— 18.	1 26 54,84	1 44 41,51	17 46,67	41,73
☿ —— 19.	1 29 58,52	1 48 24,19	18 25,67	39,0
♃ —— 20	1 32 59,05	1 52 7,26	19 8,21	42,54
☉ —— 23.	1 42 6,37	2 3 19,29	21 12,92	41,57

Comparifons of the Tranfit Inftrument with equal Altitudes.

1775.	Noon by equal Altitudes. H ′ ″	The ☉ paffed the Tranfit Inftrument. H ′ ″	Difference. ′ ″	Error of the Inftrument. ′ ″
☉ March 26.	21 39 07,95	21 35 52,44	3 15,51	82 50
	Altered the Inftrument.			
☽ —— 27.	0 22 28,60	0 22 38,91	0 10,31	4 20
	Altered the Inftrument.			
♂ —— 28.	0 25 21,71	0 25 30,41	0 5,70	2 22
☿ —— 29.	0 28 19,36	0 28 24,94	0 5,58	2 18
♃ —— 30	0 31 14,16	0 31 19,66	0 5,50	2 17
	Moved the Inftrument.			
♀ —— 31.	0 34 10,68	0 34 12,55	0 1,87	0 45
♄ April 1.	0 37 5,75	0 37 8,25	0 2,50	1 0
☉ —— 2	0 40 0,27	0 40 2,53	0 2,26	0 54
☿ —— 5.	0 48 46,31	0 48 49,0	0 2,69	1 2
♃ —— 6.	0 51 40,50	0 51 44,06	0 3,56	1 21
	Moved the Inftrument.			
♀ —— 7.	0 54 37,38	0 54 38,38	0 1,0	0 23
☉ —— 9.	1 0 32,08	1 0 33,47	0 1,39	0 31½
☽ —— 10.	1 3 29,16	1 3 30,78	0 1,62	0 36
♃ —— 13	1 12 29,72	1 12 29,83	0 0,11	0 3
♄ —— 15.	1 18 29,49	1 18 31,04	0 1,55	0 33
☽ —— 17.	1 23 54,40	1 23 54,79	0 0,39	0 8½
☿ —— 19.	1 29 58,52	1 29 59,08	0 0,56	0 12
♃ —— 20.	1 32 59,05	1 32 59,29	0 0,24	0 5
☉ —— 23.	1 42 06,37	1 42 7,94	0 1,57	0 31

The difference between the rates of the Clock's going now, and when here in November 1772, is very extraordinary; but cannot, I think, be imputed to any abfolute alteration in the length of the pendulum, as it had never been altered, in any refpect, after the Clock was fet up at Dufky Bay; and although before that time it was always altered, in order to its being packed up, yet on fetting it up again, it was conftantly brought back to its proper length, by means of a fcratch on the rod, and the numbers on the nut. But, notwithftanding, I think it highly probable that the caufe does not lie there, I am utterly unable to affign any other fatisfactory one; and the moft likely hint I am able to give, after the clofeft examination, is, that all the time the Clock was now going here, the principal play, or bending of the pendulum fpring was down quite at the lower part of it: whether or no it had always been fo, or that the principal yielding of the fpring had formerly been in fome part higher up, which was now grown ftiff with ruft, I muft confefs I cannot tell, as a thought of this kind did not occur to me before. It is worthy obfervation, that the Clock went fomewhat fafter the fecond time it was at Otaheite, than it did the firft, and the difference was yet greater at Queen Charlotte's Sound.

Obſervations at the Cape of Good Hope, Continued

Computations of the Rate which Mr Kendall's Watch went at

1775	Time of apparent Noon by the Clock	Time by Clock when the Watch was compared	Time from Noon by the Clock	[illegible]	Time from Noon by the Watch	Time by the Watch when compared	Time of apparent Noon by the Watch	Mean Time of apparent Noon	The Watch too ſlow for mean Time	[illegible]
	H ′	H	″	″	′	H ′ ′	H ′ ′	H ′	H ′	′
♀ March 24	21 33 15 73	21 57 0	23 44 27	2 99	23 41 28	23 15 51 ¼	22 52 10 47	24 6 26 05	1 14 15 58	
♄ —— 25	21 36 12 22	21 14 4¼	22 7 97	2 77	22 5 20	22 30 0	22 52 5 20	44 6 7 45	1 14 2 25	13 3
☉ —— 26	21 39 7 95	21 45 8¼	6 0 55	0 76	5 59 79	22 58 0	22 52 00 21	24 5 48 85	1 13 48 64	13 6
☽ —— 27	0 22 28 60	0 40 35	18 6 40	2 27	18 04 13	23 10 0	22 51 55 87	24 5 30 14	1 13 34 27	14 3
♂ —— 28	0 25 24,71	0 32 36	7 11 29	0 91	7 10 38	22 59 0	2 51 48 62	24 5 11 55	1 13 22 93	11 3
☿ —— 29	0 28 19,36	0 38 36¼	10 16 89	1 17	10 15 72	23 2 0	22 51 44 28	24 4 52 95	1 13 8 67	14 2
♃ —— 30	0 31 14 16	0 37 35¼	6 21,34	0,97	6 20 37	22 58 0	22 51 39 63	24 4 34 44	1 12 54 81	13 8
♀ —— 31	0 34 10 68	0 43 35	9 24 32	1 17	9 23 15	23 1 0	22 51 36 85	24 4 16 04	1 12 39 19	15 6
♄ April 1	0 37 5 75	1 16 41	39 35 25	5 00	39 30 25	23 31 0	22 51 29 75	24 3 57 73	1 12 27 9	11 2
☉ —— 2	0 40 0 27	0 45 36½	5 36 48	0 70	5 35 78	22 57 0	22 51 24 22	24 3 39 43	1 12 15 21	12 7
☽ —— 3	0 42 55 0	0 47 36	4 41 0	0 59	4 40 41	22 56 0	22 51 19 59	24 3 21 32	1 12 1,73	13 4
♂ —— 4	0 45 50,65	0 56 37¾	10 17 03	1 34	10 15 69	23 1 0	22 51 11 32	24 3 3 41	1 11 49 9	12 6
☿ —— 5	0 48 46 31	1 14 38½	25 51 94	3 22	5 49 72	23 17 0	22 51 11 28	24 2 45 61	1 11 34 31	14 7
♃ —— 6	0 51 40 50	0 14 30½	37 10 25	4 63	37 5 62	22 14 0	2 51 5 62	24 2 27 90	1 11 22 28	13 0
♀ —— 7	0 54 37 38	1 1 36½	6 59 12	0 86	6 58 26	22 58 0	22 51 1 74	34 2 10 39	1 11 8 65	13 6
☉ —— 9	1 0 32 08	1 7 37¼	7 5 04	0 89	7 4 15	22 58 0	22 50 55 85	24 1 35 97	1 10 40 12	14 2
☽ —— 10.	1 3 29 16	1 11 38½	8 9 09	1,02	8 8 07	22 59 0	22 50 51 93	24 1 19 12	1 10 27 19	12 9
☿ —— 12	1 9 28 65	1 16 42¼	7 14 02	0,92	7 13 10	22 58 0	22 50 46 90	24 0 46 23	1 9 59 33	13 8
♃ —— 13	1 12 29 72	1 19 46¾	7 16 95	0 93	7 16 02	22 58 0	22 50 43 98	4 0 30 2	1 9 46 24	13 00
♀ —— 14	1 15 28 97	1 6 48	8 40 97	1 10	8 39 87	22 42 0	22 50 39 8,	24 0 14 53	1 9 34 66	11 5
♄ —— 15	1 18 29 49	1 24 54	6 25 01	0 81	6 24 20	22 57 0	22 50 15 80	23 59 59,18	1 9 23 38	11 28
☉ —— 16	1 0 5 70	1 27 19¼	6 26 80	0 81	6 25 99	22 57 0	22 50 34 01	23 59 44 17	1 9 10 16	13
☽ —— 17	1 23 54 40	1 26 24¼	32 30 35	4,10	32 26 25	23 23 0	22 50 33 75	23 59 29 53	1 8 55 78	14 38
♂ —— 18	1 26 54 84	1 35 21¼	8 30 41	1 09	8 29 32	22 59 0	22 50 30 68	23 59 15 24	1 8 44 56	11 22
☿ —— 19	1 29 58 52	1 35 28¾	5 30,15	0 70	5 29,45	22 56 0	22 50 30 55	23 59 1 40	1 8 30 85	13 71
♃ —— 20	1 32 59 5	1 43 31	10 31 95	1,33	10 30,62	23 1 0	22 50 29 38	23 58 48 0	1 8 18 62	12 23
♀ —— 21	1 36 0 50	1 54 0	17 59 50	2 28	17 57 22	23 8 28 5	22 50 30 28	23 58 35 06	1 8 4 78	13 84
☉ —— 23	1 42 6 37	1 50 35¼	8 29 13	1 07	8 28 06	22 59 0	22 50 31 94	23 58 10 42	1 7 38 46	13 15

The mean of all the above gains is 13,172, the firſt and laſt days Obſervations give 13 ,236, and the mean of the two is 13 204, the gain of the watch on mean time in twenty four hours

Obſervations at the Cape of Good Hope, Continued.

Obſervations for the Dip of the Magnetic Needle.

1775.	Face of the Inſtrument. Eaſt. ° ′	Face of the Inſtrument. Weſt. ° ′
	46 55	45 35
	45 40	45 0
	46 30	43 30
	Changed the Poles.	
	43 0	46 55
	42 30	48 15
	42 30	48 50
	44 30	47 45
	47 0	45 45
	42 30	45 50
	Altered the Balance.	
	43 35	48 30
	46 0	47 15
	43 0	45 35
	Altered the Balance.	
	45 5	45 30
	46 35	45 55
	47 15	47 45
	46 40	46 20
	Changed the Poles.	
	45 15	45 20
	46 35	43 30
	47 0	42 40
	46 15	45 0

Face of the Inſtrument. Eaſt. ° ′	Face of the Inſtrument. Weſt. ° ′
43 45	46 50
46 30	43 45
48 15	48 45
45 45	42 45
Changed the Poles.	
47 40	44 25
46 30	45 45
48 35	47 45
46 35	47 45
45 25	43 35
45 55	42 45
45 0	47 10
Changed the Poles.	
43 45	44 15
44 15	47 0
46 30	47 0
43 15	49 0
45 45	43 30
47 35	43 10
42 45	44 30
43 05	44 30
42 45	43 15
Changed the Poles.	
43 35	42 55
43 40	43 25
42 40	42 25
44 35	42 05

The mean of all gives the dip of the Needle's S. end } 45 $18\frac{1}{4}$

Obſervations for the Variation of the Compaſs.

1775.	Variation. ° ′	Variation. ° ′	Variation. ° ′
April 23.	21 10 W.	21 15 W.	21 55 W.
	21 25	21 30	21 0
	21 25	21 10	21 30
	21 10	21 15	20 50
	21 0	21 25	21 20
	20 55	21 0	21 10
	21 5	21 15	21 45
	21 15	21 10	20 40
	21 15	21 15	21 15
	21 10	21 10	21 25
	21 20	21 35	21 15
	21 35	21 0	21 10
	20 50	21 15	21 15
	21 40	21 15	21 15
	21 20	21 30	21 5
	21 25	20 50	21 15
	21 0	21 0	21 20
	21 10	21 5	21 10
	21 10	21 25	21 25
	21 10	21 0	21 15

The firſt two columns were obtained by placing the Compaſs at the Tranſit Inſtrument, and making the index biſect the meridian mark; the laſt was got by placing the Compaſs at the mark, and ſetting the index to cut the Tranſit Teleſcope. The mean of them all is 21° 14¼′ W.

Observations made at the Cape of Good Hope, Continued

As there have been some disputes concerning the relative situation of the place where the late *Abbe de la Caille* made his Observations, with respect to that where Messrs Mason and Dixon, as well as Mr Bayley and myself observed and, moreover, as it may also contribute some thing towards the business I was employed on at the Cape of Good Hope to determine with accuracy, the difference of latitude and meridians between these places, the following account of a survey, made for that purpose, will not, I presume be unacceptable

In the annexed Figure, (see Plate I Fig 1) C is the place of the *Abbe*'s Observatory and O that of ours; S N is the meridian line passing through the latter and S a point or mark in it, 8,84 chains to the southward of the Observatory The lines S G G L L A, and A C, which are in the directions of the several streets were carefully measured, as also the angles at S G E and A The line S G was found to be 12,26 chains (of Gunter), G L is 7 50 chains L A 34 chains, and A C 5,64 chains I found the inclination of the plane whereon the line O S was measured 1° 25, of that whereon S G was measured 2° 05 that on which G L was measured did not differ sensibly from the horizontal level E A declined 1° 59 from the plane of the horizon, and A C was nearly horizontal I have not made any allowance for these elevations in the computation, whereby the following results were deduced thinking them so small as not to merit notice, but have put down the inclinations themselves, for the satisfaction of such persons as may think otherwise The angle at S measured 14° 48 7 ½, that at G 11 ° 51 54, that at E 85° 41 15, and that at A 106° 38 5 The quadrant shewed angles too small by 18, as I found by Observations made for that purpose Hence it will readily be seen that one side and all the angles are given in each triangle from whence I found that O N the difference of latitude, was equal to 37 69 chains or 0,409 of a mile=24 ½ and that H B=N C the meridian distance was 16,86 chains, or, 183 of a mile=13″½ in longitude; the *Abbe*'s Observatory being these quantities to the northward and eastward of ours

The Mountain at this place, usually known by the name of the *Table Mountain* from its flat top, being one of the highest and most remarkable in the known world so near the sea; I thought the knowledge of its height might prove a matter acceptable to many and perhaps be of some use in physical enquiries These considerations induced me to make the following Observations which though not on so large a base as might be wished, will nevertheless, I hope, be sufficient for the purpose The base having been measured twice over, with the utmost care, on a tolerably even plane, and the two measurements differed only nine links of Gunter's chain from each other; the whole length of the base line was 50 chains, or 3300 English feet, and lay in a direct line from that part of the hill which I observed the altitude of

Being thus pretty well assured of the length of my base, I placed the astronomical quadrant at the lower end of it, set the Telescope very nicely to 90, allowing the error of the Quadrant and turned it round until the middle horizontal wire cut the main topmast of the Resolution as she lay at anchor in the bay and when I had adjusted the plumb-line very accurately I found that the middle wire of the Telescope cut the main topmast about ¼th or ⅓d of the way up between the cap of the main mast and the trussel trees of the main topmast

Obſervations at the Cape of Good Hope, Continued.

I next took the following zenith diſtances of a mark at the upper end of the baſe-line, which was exactly of the ſame height from the ground with the center of the Quadrant, viz.

Interior Arch.			Exterior Arch.			
°	′	″	G.	S.	V.	+″
87	35	55	93	1	24	16
	36	52			26	8
	35	50			24	12
	36	5			25	10

With the Quadrant yet ſtanding at the ſame place, I took the following zenith diſtances of the higheſt part of the Table Mountain: I mean that part which forms the right-hand cliff of the paſſage, whereby the mountain is uſually aſcended.

Interior Arch.			Exterior Arch.			
°	′	″	G.	S.	V.	+″
74	24	37	79	1	16	5
	24	45			16	7
	24	15			15	10

I now removed the Quadrant to the upper end of the baſe-line, and there took the following zenith diſtances of the ſame point of the mountain.

Interior Arch.			Exterior Arch.			
°	′	″	G.	S.	V.	+″
71	5	50	75	3	11	18
	5	30			11	10

Clouds now covered the hill, ſo that I could get no more of theſe laſt. The Barometer ſtood at 29,98, and the Thermometer at 64. It is neceſſary to add, that the length of the Reſolution's main-maſt was 70 feet 11 inches, of her main-topmaſt 42 feet 5 inches: 11 feet and 6 inches of the main-maſt was loſt in the water, the top-maſt overlapped at the heel 9 feet and 10 inches, and the truſſel-trees were $4\frac{1}{2}$ feet below its cap. Hence the cap of the main-maſt was 59 feet and 5 inches above the ſurface of the ſea, and the main-topmaſt truſſel-tree $27\frac{1}{2}$ feet above that; one fourth, or one third of which may be taken at 8 feet, and then the lower end of the baſe will appear to be $67\frac{1}{2}$ feet, or $22\frac{1}{2}$ yards above the ſurface of the ſea, allowing nothing for the horizontal refractions, or the curvature of the earth on the diſtance, which was about a mile and quarter.

If then, in Fig. 2, Plate II, A E repreſent an horizontal line drawn through A, the lower ſtation; B D another drawn through the upper ſtation, B; A B the line meaſure, = 3300 feet, or 1100 yards, and C D the perpendicular height of the mountain above the horizontal line B D; by taking a mean of the zenith diſtances ſhewn by the two arches of the Quadrant, and

Obſervations at the Cape of Good Hope, Continued

allowing the mean aſtronomical refractions thereon, which may, perhaps, be a ſmall matter more than ought to be done, B F, the perpendicular height of the ſecond ſtation, above the firſt, will come out 40½ yards; and D C, the perpendicular height of the ſummit of the mountain, above the ſecond ſtation, 1422½ yards; and of courſe the height of the mountain's ſummit, above the lower ſtation, is 1463 yards; to which adding 22½ yards the height of the lower ſtation above the ſea, the whole height of the mountain will be 1485½ yards

If no refractions whatever be allowed, B F will be 46 yards, and C D 1407 yards; and the whole height of the mountain 1475½ yards above the level of the ſea

As B C, the diſtance of the upper ſtation from the top of the mountain, comes out only 4400½ yards in one caſe, and 4342¼ yards in the other; the whole diſtance of the top of the mountain from the ſea-ſhore cannot exceed four miles, as my firſt ſtation was not quite three fourths of a mile from it

Obſervations at the Iſland of St. Helena, Latitude 15° 55′, S. Longitude 5° 49′, W.

Obſervations for the Dip of the Magnetic Needle.

1775.	Face of the Inſtrument. East. ° ′	Face of the Inſtrument. Weſt. ° ′
♀ May 19.	14 10	14 25
	14 35	14 5
	14 50	14 10
Mean	14 31$\frac{1}{3}$	14 13$\frac{1}{3}$
	Changed the Poles.	
	9 50	8 45
	10 0	8 45
Mean	9 55	8 45
	Altered the Balance.	
	11 05	10 45
	9 30	10 45
Mean	10 17$\frac{1}{2}$	10 45
	Changed the Poles.	
	13 55	12 5
	13 10	13 40
	13 5	12 20

1775.	Face of the Inſtrument. Eaſt. ° ′	Face of the Inſtrument. Weſt. ° ′
♀ May 19.	14 15	14 40
	14 0	13 30
	14 0	14 0
Mean	13 44$\frac{1}{6}$	13 22$\frac{1}{2}$
	Changed the Poles and altered the Balance.	
May 20.	12 30	11 40
	12 40	11 30
	13 5	13 0
	13 15	13 30
	13 0	13 45
	13 15	12 35
	13 0	13 05
	12 30	12 35
	13 15	12 30
	13 10	12 25
Mean	12 58	12 27$\frac{1}{2}$

1775.	Face of the Inſtrument. Eaſt. ° ′	Face of the Inſtrument. Weſt. ° ′
	Changed the Poles.	
	10 45	8 30
	9 0	9 50
	9 5	8 35
	8 45	8 45
	8 55	8 45
	8 50	8 45
Mean	9 13$\frac{1}{3}$	8 52
Mean of all the means	11 29$\frac{3}{7}$	11 20$\frac{3}{4}$
Dip of the Needle's ſouth end	11 25$\frac{1}{4}$	

Other Obſervations.

1775.	Time by the Watch K. H ′ ″	Apparent Time. H ′ ″	Double Altitude of the ☉'s L.L. ° ′	Error of the Quadrant. ′ ″	Therm.	Latitude. ° ′ ″	Longitude by the Watch. ° ′ ″	′
♃ May 18.		Noon	108 31	—1 7$\frac{1}{2}$	75$\frac{1}{4}$	15 55 16		
♀ —— 19.	22 18 5$\frac{1}{2}$	21 48 18,1	82 26	—0 30	76$\frac{1}{4}$	——	5 47 22$\frac{1}{2}$	Weſt.
	18 45		82 38					
	19 14		82 47$\frac{1}{2}$					
	19 40$\frac{1}{2}$		82 56$\frac{1}{4}$					
	20 5		83 3$\frac{1}{4}$					
	20 34		83 13$\frac{3}{4}$					
♄ —— 20.		Noon	107 38$\frac{3}{4}$	—0 42	76	15 55 28		

Obſervations at the Iſland of Aſcenſion, Latitude 7° 56′¼ S Longitude 14° 32′½ W

Obſervations for the Dip of the Magnetic Needle

1775	Face of the Inſtrument East ° ′	Face of the Inſtrument West ° ′
☽ May 29	9 40	8 0
	9 15	8 30
	9 10	8 25
	8 45	8 30
	9 30	8 30
	9 20	8 40
Mean	9 16⅔	8 25⅚
	Changed the Poles	
	10 15	10 0
	9 40	7 10
	8 30	8 15
Mean	9 28⅓	8 28⅓
	Changed the Poles	
	8 5	9 25
	10 45	8 0
	10 5	8 40
	8 40	7 45
	8 30	8 30
	9 13	8 28

1775	Face of the Inſtrument East ° ′	Face of the Inſtrument West ° ′
☽ May 29	9 15	10 0
	9 15	9 15
	9 10	9 0
	9 0	9 30
	9 0	9 10
	9 05	8 30
	9 10	8 15
Mean	9 7[illegible]	9 10
3d ditto	9 13	8 28
2d ditto	9 28⅓	8 28⅓
1ſt ditto	9 16⅔	8 25⅚
Mean of all the means	9 16[illegible]	8 38[illegible]
		9 16[illegible]
Dip of the Needle's North End		8 57[illegible]

Mr Kendall's watch gave the longitude of the ſhip at anchor 14° 31 49 W I got no lunar Obſervations for the longitude while here; but three taken before our arrival, and reduced to this place by means of the watch, gave 14 58 11″, and twelve taken after leaving it, ſix of which were of the ſun and moon, and ſix of the moon and ſtars, on the other ſide of her, gave, when reduced back by the watch, 14 6 50″ The mean of the two is 14 32″ 30 W The latitude of the ſhip, as ſhe lay at anchor, was 7 55′ 53″ S, by a mean of three Obſervations; and the variation of the Compaſs was 10 52½ W

N B The higheſt part of the iſland bore W by N ¼ N by Compaſs, about four leagues diſtant.

Obſervations made at the Iſland of Fyal, one of the Azores.

1775.	Equal Altitudes. Times by the Watch K. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Diſtance. ° ′ ″	Supplement to the double Altitude of the ☉'s L. L. ° ′ ″	Thermometer.	Time of apparent Noon by the Watch. H ′ ″	Phenomena, &c.
♃ July 13.	28 43¾	0 31 15½	33 44	29 20 0				☉'s U. L. Eaſterly.
	31 47½	34 19	36 47½					☉'s L. L.
☿ —— 14.							2 25 02,63	
	18 12½	4 15 42¾	13 15	29 20 0				☉'s L. L. Weſterly.
	21 12¾	18 43¾	16 16½					☉'s U. L.
	——	23 57 13½	59 32½	35 40 0				☉'s U. L. Eaſterly.
	——	——	——					☉'s L. L.
♄ —— 15.					34 31 47	76½	2 25 24,23	Latit. 38° 32′ 49″ N.
	——	——	——	35 40 0				☉'s L. L. Weſterly.
	——	4 53 28	51 8¾					☉'s U. L.
	——	0 5 10½	——	34 20 0				☉'s U. L. Eaſterly.
	5 40½	——	——					☉'s L. L.
☉ —— 16.					34 48 54	76½	2 25 41,17	Latit. 38° 31′ 43″ N.
	45 35½	——	——	34 20 0				☉'s L. L. Weſterly.
	——	4 46 05	——					☉'s U. L.
	——	——	20 41½	55 0 0				☉'s U. L. Eaſterly.
	——	22 21 11½	——					☉'s L. L.
☽ —— 17.	——				35 9 48	76½	2 26 02,04	Latit. 38° 32′ 7″ N.
	——	6 30 42¾	——	55 0 0				☉'s L. L. Weſterly.
	——	——	31 13					☉'s U. L.
		21 ——	45 36½	62 0 0				☉'s U. L. Eaſterly.
	——	——	48 18½					☉'s L. L.
	15 18½	22 17 34	19 46½	55 20 0				☉'s U. L. Eaſterly.
	18 2½	20 15¾	——					☉'s L. L.
	54 34½	22 56 51½	59 06:	47 40 0				☉'s U. L.
	57 20¾	59 36½	1 49½					☉'s L. L.
	4 34½	0 6 57:	9 16¾	34 20 0				☉'s U. L.
	7 26½	9 50	12 13					☉'s L. L.
♂ —— 18.					35 30 45	77½	2 26 19,80	Latit. 38° 32′ 42″ N.
	45 6	4 42 42½	40 18½	34 20 0				☉'s L. L. Weſterly.
	48 1½:	45 36½	43 14					☉'s U. L.
	55 8:	5 ——	50 40½	47 40 0				☉'s L. L.
	57 54¾	——	53 25½					☉'s U. L.
	34 26½	6 32 14½	30 01¾	55 20 0				☉'s L. L.
	37 10	34 55½	32 44½					☉'s U. L.
	——	7 ——	4 8½	62 0 0				☉'s L. L.
	——	——	6 53					☉'s U. L.

Obſervations at Fyal, Continued

Computations of the Watch's Rate of going

1775	Time of Noon by the Watch H ′ ″	Mean Time of apparent Noon H ″	Watch faſter than mean Time H ′	Watch gains on M Time ″
♀ July 14	2 25 2,63	0 5 19 52	2 19 43 11	
♄ —— 15	25 24 23	0 5 25 89	19 58 34	15 23
☉ —— 16	25 41 17	0 5 31 72	20 09 45	11 11
☽ —— 17	26 02 04	0 5 37 09	20 24 95	15 50
♂ —— 18	26 19 80	0 5 42 05	20 37 75	12 80

The mean of theſe four is 13 66; but if a mean of all the compariſons which can be formed out of the five Obſervations be taken its gain on mean time will be 13 528 The longitude ſhewn by the watch is 28° 56 20′ W or 47 19 35 weſt of the Cape of Good Hope I had no lunar Obſervations here for the longitude; but a mean of 15 taken before we arrived here gave 28 1 44 ¾ when brought on by the watch; and eight taken after leaving it and carried back by the watch gave 28° 46 42 ½ The mean of the two is 28 24 13 ¾ weſt

Obſervations for the Variation of the Compaſs

1775	Zenith Diſtance of the Sun	Azimuth of the Sun's Center	Variation W ll
☽ July 17	62 28¼ U L	N 62 15 W	21 5½
	43½	61 45	
	54	61 25	
	63 3½	61 20	
	19½	61 0	
	31½	60 35	
♂ —— 18	56 51 L L	N 66 45 W	2 10¼
	57 7½	64 15	
	57 13½	66 55	
	57 24½	65 0	
	59 11	N 65 55 W	1 44 2
	59 21½	64 5	
	59 36½	65 15	
	59 46¼	63 50	
		Mean	22 7½

Obſervations for the Dip of the Magnetic Needle

1775	Face of the Inſtrument Eaſt °	Face of the Inſtrument Weſt ′
☽ July 17	70 20	71 0
	70 45	72 30
	71 30	72 15
	70 10	72 0
Mean	70 41¼	71 56¼
	Changed the Poles	
	72 55	69 30
	72 0	69 55
	70 20	69 30
	71 45	69 15
	72 05	69 25
	72 0	71 10
Mean	71 50⅛	69 47⅝
	Changed the Poles	

Face of the Inſtrument Eaſt	Face of the Inſtrument Weſt °
69 35	72 15
70 30	71 30
70 40	72 0
71 0	70 40
70 35	70 40
70 5	71 0
70 10	72 0
70 22½	71 26¼
Changed the Poles	
71 45	70 45
71 0	70 50
71 30	70 30
71 20	70 40
71 23¾	70 41¼

The mean of all theſe means is 71 01⅛ which is the dip of the needle's north end

Obſervations on the Tides

1775	Apparent Time H ′	
☽ July 1	0 7½	The water at a mark
	0 24½	The water at a ſecond mark
	0 59½	It came to a third
	2 49½	High water
	4 52½	The water returned to the third mark
	5 17½	It returned to the ſecond
	5 34½	It returned to the firſt

By one mark the water appeared to flow four feet and one inch and by another only three feet and ten inches The mean of the two is three feet, 11 inches and a half

ASTRONOMICAL OBSERVATIONS

FOR

Determining the LATITUDE of the Ship, and her LONGITUDE, by Mr. ARNOLD's two Watches, No. 1 and 2.

Made on Board his MAJESTY's Sloop ADVENTURE, in her late Voyage on Discoveries towards the South.

By Mr. WILLIAM BAYLEY.

It appears, from Page 4, that both N^os^. 1 and 2 were fet 12″ too flow for mean time at Drake's Ifland, in Plymouth Sound, on July the 10th, in the evening; but Mr. Arnold having forgot to wind up N°. 2 when he fet it a going, it ftopped, and was fet a going again by Mr. Bayley on the 12th, on which day, when N°. 1 fhewed 0 h. 30′, it fhewed 1 h. 23′ 45″; and Mr. Bayley remarks, that this Watch was 53′ 45″,4 too faft for mean time at Drake's Ifland on the 13th at noon.—The feveral rates of going, mentioned on Page 4, were allowed, until our arrival at the Cape of Good Hope.

1772.	Time by Watch No. 1. H ′ ″	Time by Watch No. 2. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude Weft of Drake's Ifland. By No. 1. ° ′ ″	Longitude Weft of Drake's Ifland. By No. 2. ° ′ ″	Latitude of the Ship N. ° ′	Thermom. C.	Thermom. D.	No. of Obf.
☿ July 15.	20 1 19⅓	20 55 30	33 4¼	2 25 51	2 21 0	47 43	64	62	3
♃ —— 16.	Noon.		63 35			47 29¼	65	64	
	6 3 42½	6 57 59½	17 22¾	2 52 3	2 44 9	47 11	65½	62	4
♀ —— 17.	Noon.		64 28			46 26½	66	68	
♄ —— 18.	19 21 50	20 16 7½	25 6	3 38 54	3 25 9	45 35	62½	65	3
	10 32 34		56 36			45 22			2
	11 32 45		63 15 1/10						3
☉ —— 19.	Noon.		65 14			45 19	66	64	
☽ —— 20.	Noon.		66 26			43 55¼	64	67	
♂ —— 21.	Noon.		66 40			43 29½	65	67	
	6 23 55	7 18 7½	13 32	4 19 37½	3 56 25½	43 26	62	65	3
	19 18 41½	20 12 51½	23 15	4 39 13½	4 13 25½	43 40	61	65	3
☿ —— 22.	Noon.		66 20			43 37⅕	66	66	
	18 44 50½	19 38 58¼	16 18½	5 25 52½	4 56 0	42 36	63	67	3
♃ —— 23.	Noon.		67 29			42 16½	65	68	
♀ —— 24.	Noon.		69 29			40 03¼	66½	67	
	6 30 51½	7 25 0½	13 16	7 34 30	7 0 24	39 32	66	67	3
♄ —— 25.	Noon.		71 40			37 40⅕			
	6 16 59	7 11 10	16 19	8 57 42	8 20 43	37 13	67	67	3
☉ —— 26.	Noon.		73 34			35 31⅐	71	72	
	6 3 4	6 57 16½	19 27⅓	10 8 33	9 28 42	35 11⅔			3
☽ —— 27.	Noon.		75 9			33 43	71	72½	
	6 16 38	7 10 51⅓	16 57⅔	10 58 10	10 15 9	33 23	71	72	3
	20 3 41	20 57 54½	20 35⅓	11 37 45	10 52 54	33 6	70½	71	3
♂ —— 28.	Noon.		75 50			32 48	74	74½	
	5 45 40	6 39 53	24 13⅚	12 22 55½	11 36 37½	32 40	73½	74	3
♃ —— 30.	The Time-keepers were carried on fhore at Fonchial, on the ifland of Madeira, and compared with the Clock by which the times of equal altitudes had been noted, (See page 6.) from whence I find, that N°. 1 made the difference of Longitude, between Drake's Ifland, and the above-mentioned place, 12° 29′ 16″, and N°. 2 made it 11° 37′ 57″, that is 16° 45′ 23″½, and 15° 54′ 4″½ Weft of Greenwich.								
☉ Aug. 2.	Noon.		75 23			32 0 1/12	73	72	
	20 59 35	21 53 21¼	34 32⅔	12 52 22½	11 52 45½	30 0	73	74½	4
☽ —— 3.	Noon.		77 24			29 43 7/12	75	73	
	6 11 51	7 5 46½	18 4¼	13 5 52	11 55 9	29 25	72½	72	5
♂ —— 4	Noon.		78 11			28 40¼	74	73	
	4 25 44	5 19 39½	41 40½	13 58 30	12 47 58	28 29	74½	73	2

17	Time by Watch No 1 H ′ ″	No 2 H ′ ″	Altitude of the ☉ L. L. ° ′	Longitude West of Drake's Island By No 1 ° ′ ″	By No 2	Latitude of the Ship N.	Therm. C	Therm. D	
Aug.	4 42 4		37 51⅓			2 29	74¾	73	1
	4 53 13		35 37½	13 52 15		26 29	74½	73	
	6 50 28		10 10½			27 6	74	74	1
☿ —— 5	Noon		78 42			27 53	74	74	
	5 22 41½		29 18⅓			27 31⅙	74	73	5
	5 52 53½		22 38⅓	14 15 45		27 30⅙	74	73	4
♃ —— 6	Noon		80 12			26 6	74	73	
	20 44 13½	21 38 8	28 48½	14 44 37½	13 36 51	24 32	74	76	4
♀ —— 7	Noon		81 54			24 8	74½	7[illegible]	
♄ —— 8	Noon		83 34			22 10¼	73	70	
	6 2 13		20 19¼	15 22 18		21 50	73	73	,
	20 19 15	21 13 17½	21 23⅘	16 1 30	14 31 0	20 42	74	74	5
☉ —— 9	Noon		85 18			20 8¾			
☽ —— 10	Noon		87 8			18 1	77½	77	
	22 28 40	23 22 29	49 25¼	17 57 30	16 19 20	16 29	77	78½	5
♂ —— 11	Noon		88 40			16 11			
	1 9 54	22 3 43½	30 04	18 23 7½	16 41 27	15 12	77	76	4
♄ —— 15	5 45 55	6 39 26	24 45	18 14 7½	16 17 10	13 [illegible]	79	79½	4
	20 40 50¼	21 34 19	22 46⅓	18 17 0	16 17 30	12 36	79½	79	4
☉ —— 16	Noon		88 40			12 21	79	79½	
♂ —— 18	Noon		88 23			11 25½	80	81	
	5 56 30	6 50 5	19 39⅞	16 24 54	14 19 0	11 18	80	77	4
	19 53 25		13 19	15 57 30		10 47	79	76	3
☿ —— 19	0 21 32	21 15 19	20 27¼	15 20 0	13 12 0	9 17	78	77	4
♀ —— 21	Noon		86 38			8 41	79	78	
♄ —— 22	Noon		86 11			7 55	79	78½	
	20 42 16	21 36 29	28 33¼	11 56 46½	9 45 0	7 4			4
☉ —— 23	Noon		85 30			6 53	79	79½	
☽ —— 24	Noon		85 22			6 24			
	5 45 33	6 39 56	14 58¼	10 9 0	7 55 0	6 20	79	78	4
♂ —— 25	Noon		85 12			5 53¼	80	79½	
☿ —— 26	20 32 46	21 27 26	30 57	6 49 46	4 31 9	4 27	79½	80	4
♃ —— 27	Noon		84 14			4 13¼	79	80	
	4 26 53	5 21 36	30 7⅓	6 23 27	4 17 50	4 9	77½	78	8
♀ —— 28	Noon		84 02			3 40¼			
	5 2 37½	5 57 29	19 41	4 53 43½	2 23 30	3 36	76½	78	6
	19 23 32½	0 18 29	16 40½	4 7 30	1 46 38	3 20	77	77½	6
♄ —— 29	Noon		83 58			3 15⅘			
	5 16 30½	6 11 31	14 44⅞	3 29 25	1 8 15	3 10	76	77	6
☉ —— 30	Noon		83 44		East	2 40	78½	78	
	20 4 8½	20 59 26	30 20⅓	0 27 39	1 54 45	2 31	77	78	6
☽ —— 31	Noon		84 0			2 34½	78	78½	
	4 30 54	5 25 53	22 31⅗	0 8 16	2 14 51	2 31½	77	78½	6
	0 15 21	21 10 41	33 20⅓	0 14 30	2 10 4	2 4	77	78	6
♂ Sept. 1	Noon		83 47			1 59	78	78½	
	3 6 41½		38 21⅓			1 55	77½	78	
	4 42 5½	4 38 14	34 26⅓	0 24 57	2 0 51	1 55			3

1772.	Time by Watch No. 1.	Time by Watch No. 2.	Altitude of the ☉'s L. L.	Longitude West of Drake's Island By No. 1.	Longitude West of Drake's Island By No. 2.	Latitude of the Ship N.	Thermom. C.	Thermom. D.	No. of Obs.
	H ′ ″	H ′ ″	° ′	° ′ ″	° ′ ″	° ′			
☿ Sept. 2.	Noon.		83 33			1 $23\frac{1}{11}$	78	78½	
♃ — 3.	Noon.		83 32½			1 0½	77	77½	
	19 26 28	20 22 1	18 $6\frac{5}{12}$	3 29 51	0 58 3	0 53	77	77	6
♀ — 4.	Noon.		83 45			0 51	77½	77	
	3 0 $58\frac{2}{3}$		47 $44\frac{3}{5}$		West.	0 49	76½	77	6
	3 30 $58\frac{1}{3}$	4 26 35	40 23¼	3 46 21	1 14 9	0 49	76	77	6
♄ — 5.	Noon.		84 13			0 $56\frac{1}{5}$	77	77½	
	3 22 26		42 $39\frac{2}{3}$			0 55	77	76½	3
	3 43 19	4 39 12½	37 22	3 50 46½	1 19 45	0 55	77	76½	6
	5 41 22		7 59						
			70 10 =	Altitude of ☽'s L. L.		0 51	76	75½	
	19 34 3	20 30 12	20 32½	3 6 30	0 27 6	0 40	76	77	6
☉ — 6.	Noon.		84 15			0 $35\frac{1}{5}$	76½	76	
	4 18 59	5 15 15	27 20½	2 45 24	0 16 25	0 31	77	76	6
☽ — 7.	Noon.		84 25			0 $23\frac{2}{3}$	76½	76	
						South.			
	20 11 42	21 8 17	29 56¼	3 0 36	0 30 51	0 11	76	75	6
♂ — 8.	Noon.		84 6			0 18	76	75½	
	4 8 $6\frac{1}{3}$	5 4 43½	30 $35\frac{1}{5}$	3 32 33	1 2 16	0 20	76	75	6
	20 6 32	21 3 12½	27 $56\frac{1}{12}$	3 55 6	1 24 15	0 50	76	76	6
☿ — 9.	Noon.		83 52			0 $54\frac{1}{5}$	76	76½	
	5 16 $42\frac{1}{3}$	6 13 25	14 $12\frac{1}{6}$	4 18 22½	1 46 7½	1 0	76	75½	6
♃ — 10.	Noon.		83 12			1 57½	76	75½	
	5 2 $9\frac{2}{3}$	5 58 59	19 3½	5 34 10½	3 0 15	2 7	75	74	6
	19 53 34	20 50 25	22 19	6 21 19½	3 45 31	2 49	75	74	3
♀ — 11.	Noon.		82 33			2 $59\frac{2}{3}$	76	76	
	4 43 28	5 39 56	24 39	6 44 45	4 8 30	3 10			6
♄ — 12.	Noon.		81 45			4 $10\frac{2}{3}$	76	$75\frac{2}{3}$	
	4 50 8½	5 47 10	23 $34\frac{1}{6}$	7 36 20	4 58 45	4 20	76	75	6
☉ — 13.	Pocket	0 54 11	79 21 }						
	Watch.	1 55 15	66 54 }			5 5			
	4 32 32	5 29 33	28 $47\frac{2}{3}$	8 37 36	5 56 36	5 15	76	75	3
☽ — 14.	Noon.		80 12			6 29½	75	75½	
	5 7 10	6 4 34	21 $4\frac{1}{6}$	9 38 46	7 0 15	6 41			3
♂ — 15.	Noon.		78 55			8 $9\frac{2}{3}$	75	75	
	21 9 40	22 7 24¼	36 19	11 0 0	8 19 30	9 26			4
☿ — 16.	Pocket	1 19 23	74 20½ }						
	Watch.	2 26 2	60 47½ }			9 37			
	5 26 50	6 24 33½	17 33¾	11 20 14	8 40 55	9 52	73	73½	3
	21 24 24	22 22 25	39 $5\frac{7}{8}$	11 45 27	9 7 3	10 47	73½	73	4
☽ — 17.	Noon.		76 51			11 $0\frac{1}{3}$	75	73½	
	21 5 14	22 3 19	33 48	12 21 5	9 40 34	12 12	75	74	3
♀ — 18	Noon.		75 49			12 26½	75	74	
	20 28 28	21 26 42	14 3½	13 13 53	10 17 3	13 48½	73	72½	5
♄ — 19.	Noon.		74 34			14 $4\frac{2}{3}$	74	73	
	9 52 29		14 54			15 19			
	20 15 58	21 14 15	20 $24\frac{7}{12}$	13 54 25	11 10 10	15 20			6

1772	Time by Watch No 1	Time by Watch No 2	Altitude of the ☉ s L L	Longitude West of Drake's Island By No 1	Longitude West of Drake's Island By No 2	Latitude of the Ship	[illegible]	[illegible]
	H ″	H	°	°	′			
☉ Sept 20	Noon		73 26			15 35		
	21 14 54	22 13 11	33 39	14 40 30	11 50 0	16 56		
☽ — 21	Noon		72 16			17 19		
	20 38 59	21 37 17½	24 42 1/6	15 5 45	12 15 0	18 21		
	20 52 42½		27 48			18 25		
	23 19 37		16 7			18 26		
♂ — 22	Noon		71 9			18 39		
	21 32 48½	2 31 12	36 35	15 35 30	12 42 51	19 51		
☿ — 23	Noon		70 03			20 6		
	11 21 14	22 19 49	33 28	15 57 45	13 4 27	21 19		
	Pocket Watch	10 41 52	50 58			21 30		
		12 7 13	65 49					
♃ — 24	Noon		69 5			21 28		
♀ — 25	Noon		68 6			22 50		
	20 32 47½	21 30 13½	21 17	17 20 7	14 3 9	23 59		
♄ — 26	Noon		67 7			24 12	2	
	20 4 21	21 0 24	15 14	17 7 12	13 26 15	24 30		
☉ — 27	Noon		67 3			24 40		
	20 9 43	21 5 36	16 46	16 56 45	13 10 1	25 18		
☽ — 28	Noon		66 38			25 25¼		
	0 16 01	21 12 1	19 6 5/8	16 4 16	12 16 0	26 4		
♂ — 29	Noon		66 16			26 13⅓		
	4 33 10	5 29 13¼	32 2	15 24 0	11 35 0	26 16		
☿ — 30	Noon		65 55			26 58		
	5 20 52	6 17 8	19 25¼	12 57 45	9 9 0	27 5		
	19 37 35	20 33 44½	14 55					
♃ Oct 1	Noon		65 52			27 25		
	4 35 34	5 31 56	27 48½	11 8 25	7 17 45	27 27		
	19 21 22½	20 17 15	12 21	10 43 35	6 43 16	27 29		
♀ — 2	Noon		66 7			27 33		
	5 33 39	6 29 16	14 9	9 58 54	5 53 30	27 40		
			0 26 = ☽ s L L			27 42	66	
♄ — 3	Noon		66 0			28 4		
	5 24 59½	6 20 36	14 37½	8 15 10	4 6 15	28 10	66	
☉ — 4	Noon		65 29			28 53		
	5 0 44	5 55 47	17 48	5 46 27	1 26 0	29 6		
☽ — 5	Noon		65 50			29 0	60	
	4 9 11		27 46	4 17 45		28 51	63	

Here Mr Bayley remarks, that the Watch (No 2) began to go very irregularly, from what cause he could not tell and on this account he left off computing the Longitude of the ship from it

1772.	Time by Watch, No. 1.	Altitude of the ☉'s L. L.	Longitude West of Drake's Island.	Latitude of the Ship S.	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
	H ′ ″	° ′	° ′ ″	° ′					
♂ Oct. 6.	Noon.	65 31		29 $32\frac{1}{2}$		64	61		
	20 0 38	26 $46\frac{1}{6}$	4 53 48	31 0		63	59	3	
☿ —— 7.	Noon.	64 18		31 $18\frac{1}{11}$		64	59		
	5 28 33	11 $22\frac{3}{11}$	4 52 51	31 34		64	58	3	
♃ —— 8.	Noon.	63 17		32 42		64	59		
	20 20 8	31 $57\frac{9}{10}$	3 25 34	33 40		64	58	5	
♀ —— 9.	Noon.	62 30		33 $52\frac{1}{4}$		64	59		
♄ —— 10.	Noon.	62 17		34 $28\frac{1}{2}$		64	61		
	4 54 58	15 $26\frac{1}{2}$	0 53 16	34 34		64	63	6	
☉ —— 11.	Noon.	62 27		34 41		66	59		
			East.						
	4 33 27	18 $58\frac{1}{4}$	0 21 49	34 44		64	61	6	
	18 41 53	15 $54\frac{1}{5}$	0 40 33	34 45		63	58	6	
☽ —— 12.	Noon.	62 41		34 $49\frac{3}{4}$		66	65		
	4 59 16	13 23	0 56 31	34 51		65	64	3	
♂ —— 13.	Noon.	62 44		35 9	29,8	64	65		
☿ —— 14.	Noon.	62 46		35 $29\frac{3}{4}$	29,9	65	60		
	18 55 49	23 $38\frac{1}{3}$	5 49 27	35 33		64	62	5	
♃ —— 15.	Noon.	62 46		35 33		64	61		Back Observation.
	4 12 $38\frac{1}{4}$	18 $37\frac{1}{4}$	6 44 7	35 32				6	
	18 41 $4\frac{1}{4}$	23 $15\frac{1}{4}$	8 42 36	35 18				6	
♀ —— 16.	Noon.	63 46		35 14		65	$62\frac{1}{2}$		
	18 11 47	19 $28\frac{1}{3}$	11 3 54	35 3		63	57	3	
♄ —— 17.	Noon.	64 25		34 $57\frac{1}{4}$		63	59		
☉ —— 18.	Noon.	65 11		34 $32\frac{3}{4}$	29,96	63	59		
	3 41 15	19 $0\frac{1}{6}$	14 47 0	34 39				3	
☽ —— 19.	Noon.	65 43		34 $21\frac{3}{5}$	29,97	64	59		
	3 53 38	16 $9\frac{1}{2}$	15 19 0	34 24				4	
	18 26 19	26 $52\frac{7}{8}$	15 34 0	34 37				4	
♂ —— 20.	Noon.	65 41		34 $45\frac{4}{5}$	29,9	64	59		
	17 7 6	11 $5\frac{1}{4}$	15 41 0	35 12	29,9	62	54	5	
	Meridian Altitude.	43 $23\frac{1}{4}$	☽'s U. L.	35 $18\frac{1}{2}$					
☿ —— 21.	Noon.	65 17		35 $31\frac{4}{5}$	30,2	65	59		
♃ —— 22.	Noon.	64 20		36 49	29,8	65	59		
♀ —— 23.	Noon.	64 20		37 10	29,9	64	59		
♄ —— 24.	Noon.	65 12		36 $38\frac{3}{4}$	30,1	62	57		
	3 54 33	13 $3\frac{11}{12}$	20 9 18	36 29	29,9	62	54	6	
☉ —— 25.	Noon.	66 45		35 26	30,2	$60\frac{1}{2}$	$56\frac{1}{2}$		
	3 31 22	16 $22\frac{1}{4}$	21 56 24	35 19	30,0	61	57	6	
☽ —— 26.	Noon.	67 49		34 43	30,0	61	$58\frac{1}{2}$		
	3 6 11	20 46	23 0 9	34 35	30,0	60	56	4	
♂ —— 27.	Noon.	69 6		33 $46\frac{4}{5}$	30,0	64	61		
	3 31 30	14 $46\frac{5}{6}$	24 6 4	33 $46\frac{4}{5}$	30,0	60	$56\frac{1}{2}$	6	
☿ —— 28.	Noon.	69 34		33 38	30,0	64	$62\frac{1}{2}$		
	3 12 45	18 $6\frac{3}{8}$	24 57 15	33 44	29,9	62	$59\frac{1}{2}$	3	

1772	Time by No 1 H ʹ ʺ	Altitude of the ☉'s L L	Longitude from the Cape	Latitude of the Ship S	Barometer	Thermom. C	D	50	Remarks
♃ Oct 29	Anchored in Table Bay; and on November 4th, Mr Bayley compared the watch No 1 with the clock C, and continued to do so every day until the 13th from which comparisons he computed that it was then losing at the rate of 10 3 a day on mean solar time; and that when it was compared with the clock on November the 4th, it was 1 h 49 9 ,1 too slow for mean time at the Cape of Good Hope. Consequently, allowing the rate it went at, when at Greenwich this watch will make the Cape of Good Hope 27° 3/ ½ E of Drake's Island in Plymouth Sound or, allowing Drake's Island to lie in 4° 16½ West, 23 21 ½ East of Greenwich that is, 4 58 ½ more than the Observations of Messrs Mason and Dixon made it. The watch No 2 went so imperfectly, for some time before our arrival at this place, that I apprehend it will be quite unnecessary to make any computation of its rate of going at the Cape, or the longitude shewn by it. It stopped entirely before we left the place								
○ Nov 2	We sailed out of Table Bay, and at noon Mr Bayley computed that the watch was 1 h 55 12 ,6 too slow for mean time at the Cape of Good Hope on which supposition, and that its rate of going is as above determined, the longitude of the ship will be computed in future								
☽ —— 23	16 42 18	21 23½	0 33 48 W	35 13					
☿ —— 25	3 39 56	16 4	1 49 52 W	37 43		67	64	3	
	17 4 9	28 36¼	2 34 0 W	38 40		66	62	3	
♃ —— 6	Noon	71 55		39 0½		66	60	4	
♀ —— 27	Noon	71 5		40 1½					
	3 30 8¼	18 35½	1 42 43 W	40 18					
♄ —— 28	Noon	70 22		40 54½		66½	53	4	
○ —— 29	Noon	69 19		42 7½		64	59		
☽ —— 30	Noon	69 11		42 45½		63	52		
	3 17 8¼	20 49½	0 24 6 W	42 33		62	55		
♃ Dec 3	3 35 37	17 51¼		44 46		63	52	4	
♀ —— 4	Noon	66 27		45 43½		57	46	4	
	– 21 42	27 19½	0 15 18 E	45 56		55½	45		
♄ —— 5	Noon	65 9		47 9½		54	42	6	
○ —— 6	3 45 37	17 28½	0 14 34 E	48 39		53½	46		
☽ —— 7	Noon	62 43		49 49		50½	35	4	
☿ —— 9	Noon	62 58		49 46		49	42		
	15 28 46	15 38½	2 54 4½ E	50 44		49	34		
♃ —— 10	Noon	61 46		51 3½		48	31½	6	
♀ —— 11	Noon	61 4		51 50		49	35		
	3 1 55	23 27½	3 20 12 E	52 5					
☿ —— 16	17 21 49	34 25½	5 21 34 E	55 13		47	33	4	
♃ —— 17	Noon	57 52		55 21		44	31	3	
	17 9 55	16 20¼	6 15 45 E	55 6					
	Meridian Altitude	37 28	☽'s U L	55 5		44	30½	3	
♄ —— 19	3 45 13	15 42½	7 33 30 E	54 22					
☽ —— 21	Noon	59 09		54 7		44	31½	3	
	3 1 12	19 44½	11 26 48 E	54 34		45	34		
——	Noon	58 24		54 51½		45	31½	4	
						45	31½		

1772.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of the Cape. ° ′ ″	Latitude of the Ship S. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♂ Dec. 22.	15 34 16	23 49½	13 44 15	55 20		45	32	3	
☿ —— 23.	Noon.	57 51		55 24		48	31½		
	16 59 18½	35 33½	13 37 0	56 19		46	32	6	
♃ —— 24.	Noon.	56 44		56 29¼	29,35	50	34		
♄ —— 26.	Noon.	54 40	——	58 29¾	29,35				Very good.
	3 34 32	17 52$\frac{1}{11}$	8 29 31½	58 33	29,4	46	32	6	Ditto.
	4 22 0	12 8½	8 23 21	58 34	29,4	46	32	4	Ditto.
☉ —— 27.	Noon.	54 46:		58 20$\frac{7}{8}$	29,5	47	35		Hazy.
♂ —— 29.	Noon.	53 49:		59 11	29,1	49	33		Ditto.
☿ —— 30.	Noon.	53 34:		59 21¾	29,15	50	34		Ditto.
			West.						
	2 21 14	32 4½	1 12 51	59 26	29,1	47	32	7	Ditto.
1773. ♄ Jan. 2.	Noon.	53 23:		59 17½					Very hazy.
	3 9 3	29 01½	7 23 27	59 01	29,3	47	31½	6	
	5 4 20	14 28½	7 26 15	58 56	29,55	46	31	4	
	Meridian Altitude.	19 33	☽'s U. L.	58 49½	29,5	46	31		
☽ —— 4.	Noon.	53 27		59 01	29,48	46	33		Hazy.
	9 53 0	51 59	Pocket Watch.	59 59	Ship's course E. by S. true, five miles an hour.				
☿ —— 6.	11 7 5	48 22							
			East.						
	14 10 51	11 17½	9 24 54	60 25	29,1	45	33	3	A little hazy.
	14 36 46	14 15¼	9 30 30	60 27	29,1	45	33	4	Ditto.
	16 39 28	29 14½	9 47 40	60 30	29,1	47	33¼	3	Ditto.
♄ —— 7.	Noon.	51 30½:		60 36	29,0	50	34		Ditto.
	15 24 46	21 59	13 47 0	61 13	28,95	45	32	4	Very clear.
	7 16 41	46 59	Pocket Watch.	61 19¾	Ship's true course E. S. E. ½ E. distance run, 10½ miles between the Observations.				
	9 17 30	50 30							
♀ —— 8.	14 49 39	19 8$\frac{1}{10}$	16 41 30	61 33	28,91	45	32½	4	Pretty clear.
♄ —— 9.	Noon.	50 15		61 35	29,07	47	35		Good.
	6 27 19	43 34	Pocket Watch.	61 55	Correct course S. S. E. 3 miles an hour.				
	8 7 15	49 21							
☉ —— 10.	9 16 5	49 18	Ditto.	61 57	Course, &c. as before.				
	1 32 20½	27 3¾	18 49 30	62 10	29,1	46	33	4	Clear, and Good.
	Meridian Altitude.	14 30	☽'s L. L.	62 44					
	16 25 7	31 10¼	19 40 57	63 4	29,2	48	32½	4	
	7 29 18	46 42	Pocket Watch.	63 22					
☽ —— 11.	9 21 24	47 31							
	13 39 22	13 31½	20 37 30	64 13	29,3	47	33	3	
♂ —— 12.	Noon.	47 08		64 14	29,35	50	35		Good.
	1 57 42	13 0$\frac{9}{10}$	20 43 6	64 12	29,32	49	34	5	
☿ —— 13.	Noon.	46 59		64 13$\frac{7}{8}$	29,4	49	34		Good.
	16 46 6	33 23	21 30 01½	64 02	29,3	46	32¼	3	
♃ —— 14.	Noon.	47 01		63 59¼	29,25	49	35½		

1773	Time by No 1	Altitude of the ☉'s L. L.	Longitude East of the Cape	Latitude of the Ship South	Barometer	Thermo C	Thermo D	No. of Obs.	Remarks
	H ′ ″	° ′	° ′ ″	° ′					
♃ Jan 14	2 48 16	16 48$\frac{1}{6}$	21 38 28½	63 57	9	47	33	3	
	15 39 39½	26 24½	21 52 25½	63 37	29,05	49	34	4	Good
♀ — 15	Noon	47 15		63 35	29,05	50	37		Ditto
♄ — 16	Noon	46 7		64 32	29,0	49	35		Ditto
	2 22 1	19 25$\frac{9}{10}$	21 35 30	64 58	29,02	48	[illegible]	3	
☉ — 17	Noon	43 53		66 34	28,9	47	32		Hazy
	25 0½	25 7¼	21 23 39	67 2	28,9	46	33	6	Hazy
☽ — 18	Noon	44 16		65 58	28,95	46	33		Very hazy
	1 14 40	20	21 37 46½	65 38	28,9	45	32½	6	Bad horizon
	15 54 59	27 15½	22 7 9	64 45	28,95	46	33	3	Ditto, and high sea
♂ — 19	Noon	45 32		64 29⅓	28,95	47	34		Good
☿ — 20	0 57 8½	27 25½	22 37 10½	63 45	28,7	45	32½	3	A little hazy
	16 28 45	31 30⅓	23 29 30	62 57	29,0	46	33½	3	
♃ — 21	1 46 24	21 10⅓	23 54 4½	62 28	28,75	47	31	3	
♀ — 22	Noon	47 48		61 33¼	29,25	49	34		Good
	14 16 38	18 4½	25 58 3	60 25	29,25	47	34	6	Flying clouds
♄ — 23	Noon	49 06		60 02½	29,1	47	[illegible]		Good
☉ — 24	Noon	50 29		58 23¼	29,13	46	35		Hazy
	0 17 30⅓	28 25½	32 15 9	58 5	29,2	48	33	3	Bad horizon, and a high sea
	2 39 7	9 14¾	32 23 31	58 1	29,2	48	33	4	
♂ — 26	15 55 0	33 15⅓	33 45 15	56 44	28,75	45½	33	4	
☿ — 27	Noon	51 38		56 29⅓	29,0	47	35		
	0 47 38	22 6$\frac{9}{10}$	34 3 21	56 12	29,1	47	33	3	Very good
	15 24 19	21 16	34 35 27	55 3	29,5	48	36	6	Ditto
♃ — 28	Noon	53 20		54 31⅕	29,5	48	36		
♀ — 29	Noon	55 8		52 27½	29,55	48	37		Hazy, and a great sea
♄ — 30	15 10 11	31 11⅓	40 7 54	51 10	29,55	44	38	6	Very good
☉ — 31	8 0 53	55 2	Pocket Watch	50 48	Ship's true course north, at the rate of 5 miles an hour				
	9 5 8	49 46							
	14 58 34	29 49⅞	40 35 22	49 10	30,0	49	41	5	Very good
♂ Feb 2	7 53 27	56 24	Pocket Watch	48 32	The altitudes put down are correct altitudes of the ☉'s center				
	9 20 21	47 27							
	0 39 41½	15 43½	43 7 34	48 1	30,15	54	44	5	Very good
	13 26 1	16 42½	44 8 4	48 42	30,1	51	43	6	Ditto
	5 35 55	53 39	Pocket Watch	48 45	The altitudes are of the ☉'s center, corrected				
	6 44 29	57 32							
☿ — 3	14 59 36	30 59½	42 56 33	49 4	29,8	50	43	4	
♃ — 4	Noon	56 38		49 15					
	0 57 40½	13 5	42 23 48	49 37	29,7	49	43	3	
	14 45 46	28 6⅙	42 1 52½	49 12	29,55	51	40	6	
♀ — 5	Noon	56 30		49 3$\frac{9}{10}$	29,5	52	41½		Good
	0 20 34	18 54⅙	42 2 1½	48 34	29,6	49	40½	6	
♄ — 6	13 40 19	18 46½	44 4[illegible] 13½	48 38	29,45	50	43	6	Clear and good horizon
☉ — 7	Noon	56 5		48 52½	29,8	52	44		Very good
	0 19 36	16 2¾	45 58 27	49 4	29,85	48	42	6	Hazy
♂ — 9	Noon	54 2		50 17½					Good

1773.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of the Cape. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♂ Feb. 9.	13 33 16	19 39$\frac{1}{6}$	48 47 9	50 13	29,6	49	39	6	
☿ —— 10.	Noon.	54 7		49 52$\frac{1}{6}$	29,4	51	40		Good.
	12 48 29	12 39$\frac{1}{3}$	49 18 10	50 00	29,15	51	40	4	
♃ —— 11.	Noon.	53 22		50 18$\frac{2}{3}$	28,9	52	42		Good.
♀ —— 12.	12 53 49	16 00$\frac{1}{4}$	53 48 10$\frac{1}{2}$	51 00	29,6	47	37	6	
☉ —— 14.	Noon.	51 01		51 39$\frac{1}{2}$	29,5	51	39$\frac{1}{2}$		Good.
	21 23 22	33 2$\frac{2}{3}$	58 41 51	51 47	29,6	50	38	6	
	13 9 31	22 22$\frac{1}{4}$	60 57 21	52 10	29,65	47	37	6	
☽ —— 15.	Noon.	50 7		52 13	29,7	50	39		Good.
	14 27 45	34 53$\frac{1}{2}$	63 39 00	52 27	29,65	44	36	4	
☿ —— 17.	13 33 9	30 35$\frac{9}{10}$	70 39 6	52 54	28,95	46	37	6	
♃ —— 18.	Noon.	48 26		52 51$\frac{3}{4}$	29,05	46	40		Good.
	2 33 44	40 12	Pocket Watch.	52 35	Ship's course at right angles to the Sun's bearing at the first Observation.				
	4 11 16	47 41							
♀ —— 19.	11 18 29	15 11$\frac{1}{3}$	78 37 27	52 20	29,1	42	36	6	
♄ —— 20.	Noon.	48 19		52 16	29,05	49	36$\frac{1}{2}$		
	10 44 42	12 4$\frac{1}{3}$	82 16 48	52 18	29,5	51	40	6	
☉ —— 21.	Noon.	48 00		52 14	29,6	53$\frac{1}{2}$	41		
	21 42 52$\frac{1}{2}$	13 02$\frac{1}{2}$	83 3 3	52 9	29,55	48	38	3	
☽ —— 22.	13 11 7	34 56$\frac{1}{3}$	86 10 30	52 20	28,35	49	39	4	
♂ —— 23.	Noon.	47 13		52 17$\frac{1}{2}$	28,5	51	41$\frac{1}{2}$		Good.
	22 10 35$\frac{1}{2}$	5 10:	87 57 42	52 16	28,45	51	41$\frac{1}{2}$	4	Bad horizon.
	11 56 6	26 8$\frac{1}{3}$	88 57 42	52 9	28,3	53	40	6	
☿ —— 24.	Noon.	47 1		52 7$\frac{1}{2}$	28,5	54	43		Good.
	11 46 24$\frac{1}{2}$	26 34$\frac{1}{6}$	92 22 28$\frac{1}{2}$	51 47	29,35	52	41	6	
♃ —— 25.	Noon.	47 5		51 41$\frac{1}{3}$	29,45	53	45		Good.
	20 19 32	17 38$\frac{1}{6}$	94 6 48	51 35	29,65	49	40	5	
	10 28 55	17 9$\frac{2}{3}$	96 9 39	51 21	29,95	53	43	6	
♄ —— 27.	9 26 44	12 3	104 3 30	50 29	29,2	55	43	6	
☉ —— 28.	Noon.	47 15		50 24	29,45	54	43$\frac{1}{2}$		Good.
	19 31 31	16 50$\frac{2}{3}$	105 56 49	50 15	29,3	53	54	4	
	9 52 48	18 20	107 25 21	49 24	29,55	54	47	6	
☿ March 3.	19 29 37	10 52$\frac{1}{3}$	114 19 34	45 56	29,5	55	52	5	
	8 40 53$\frac{1}{3}$	11 27$\frac{1}{3}$	115 24 15	45 14	29,7	57	49	6	
♃ —— 4.	Noon.	51 20		44 48					
	18 17 34	21 45	116 25 30	44 32	29,65	54	51	4	
	Regulus.	32 40	Meridian Altitude.	44 21					
	9 45 16	24 41$\frac{1}{4}$	118 18 48	44 08	29,85	59	52	6	
♀ —— 5.	Noon.	51 42		44 3$\frac{1}{3}$	29,75	59	56		Good.
	9 4 36	19 54$\frac{1}{6}$	121 44 30	43 55	29,8	58	53	4	
♄ —— 6.	Noon.	51 24		43 57$\frac{1}{2}$	29,6	58	52		
	18 15 43	16 37$\frac{1}{2}$	123 29 21	43 54	29,45	58	51$\frac{1}{2}$	4	
	8 33 55$\frac{2}{3}$	16 3	124 13 3	43 46	29,7	56	51	6	
☉ —— 7.	Noon.	51 13		43 46$\frac{1}{3}$	29,75	59	52$\frac{1}{2}$		
	18 17 14	14 39$\frac{1}{6}$	125 12 24	13 47	29,9	59	54$\frac{1}{2}$	6	

1773	Time by Watch H ′ ″	Altitude of the ☉'s L. L.	Longitude East of the Cape	Latitude of the Ship South	Barometer	Thermom. C	Thermom. D	No. of Obs.	Remarks
☉ March 7	9 15 27	24 49	126 33 37	43 45	29,9	59	54	6	
☽ —— 8	Noon	50 55		43 40⅗	29,9	59	55		Good
♂ —— 9	Noon	50 27		43 45	30,0	59	57		A little hazy
	17 26 33	20 11	129 1 31	43 42	30,1	57	54	6	The S. Point of Van Diemens Land N. 5 mile
	9 11 21	26 15½	130 22 49	43 22	30,15	64	56	6	At anchor off the entrance of Adventure Bay
♃ —— 11	Noon	50 1	Dip 2 0	43 22⅞	29,95	62	57		In the Entrance of Adventure Bay
♀ —— 12	Noon	49 35	Dip 2 0	43 24	30,0	65	58		In the bottom of Adventure Bay
☽ —— 15	Noon	48 31		43 20½					At the entrance of Adventure Bay
	17 42 13	14 01	130 38 43	43 23	29,5	61	51	6	Off the entrance of Adventure Bay
	7 34 51	9 15	131 23 53	43 34	29,7	65	52	6	Off Van Dieman's L
♂ —— 16	Noon	48 19		43 8¼	29,65	64	53		About four or five leagues off shore
	8 26 43	18 46½	131 32 30	42 10	29,7	64	53	4	Van Diemens Land from S W to N W ¼ W
☿ —— 17	Noon	49 20		41 44⅓	29,9	64	54		St Patrick's Head, W N W 4 leagues
	7 37 34	10 5½	131 57 8	40 47	29,85	62	53	6	The land bore from W S W ½ S to N W by N
♃ —— 18	Noon	50 19		40 21¾	29,95	65	54		The land bore from S to N W by N 7 leagues
	8 5 52	15 17	131 33 55	39 4	30,15	63	57	6	Saw the land bearing W S W ½ W distance 11 leagues
♀ —— 19	Noon	50 56		39 21	30,05	64	59		A little hazy
	7 39 19	11 23	133 21 6	39 20	30,15	65	60	4	
♄ —— 20	Noon	50 31		39 22½	30,1	66	61		
	17 19 43	14 37½	133 57 41	39 20	30,15	63	56	6	
☉ —— 21	Noon	50 19		39 16	30,15	65	59		
	6 58 25	5 24	136 7 30	39 32	30,1	64	57	6	
♂ —— 23	8 30 59	24 26	138 32 45	38 55	30,1				
	9 38 11	35 39							
	11 25 40	47 46		38 58	The Sun bore N E ½ E at the first Observation and the ship's course was S by E 3 miles an hour				
☿ —— 24	Noon	49 21¼		38 57	30,05	61	58		
	7 34 31	15 10½	140 25 10	39 17	30,05	61	58	3	
♃ —— 25	Noon	48 34		39 20¾	30,1	62	60		
	17 0 39	10 57	141 4 45	39 26	30,3	63	60	6	
	7 22 0	13 58	142 14 41	39 58	30,25	65	61	6	
♀ —— 26	Noon.	47 26		40 6	30,25	63	61¼		
	16 49 51	10 51	143 11 31	40 12	30,35	62	59	6	
	7 8 19	12 32	144 0 6	40 13	30,45	66	61½	6	
♄ —— 27	Noon	46 54		40 14	30,5	65	61		

1773.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of the Cape. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♄ March 27.	16 59 51	7 $44\frac{3}{8}$	144 21 25	40 16	30,5	63	60	4	
☉ —— 28.	Noon.	46 30		40 $15\frac{2}{7}$	30,4	66	64		
	16 13 25	15 28	144 54 21	40 18	30,4	64	62	6	
	6 59 12	11 $57\frac{1}{4}$	146 0 24	40 35	30,55	66	61	6	
☽ —— 29.	Noon.	45 40		40 $42\frac{1}{2}$	30,5	67	64		
	16 29 11	10 $50\frac{7}{8}$	146 41 30	40 42	30,45	66	64	5	
	6 39 16	9 $22\frac{1}{4}$	147 48 14	41 7	30,55	67	62	6	
♂ —— 30.	Noon.	44 46		41 13	30,45	67	64		
	16 0 20	14 $3\frac{1}{2}$	148 40 0	41 17	30,55	65	64	6	
	9 26 5 11 5 30	36 25 43 48		41 33	☉'s bearing, at the first Observation, N. N. E. ½ E.; ship's course E. ½ N., at the rate of four miles an hour.				
♀ April 2.	8 21 $32\frac{1}{3}$	30 $49\frac{1}{6}$	155 16 35	40 46	29,5	68	62	6	Land S. of Cape Farewell, in New Zealand, N. E. by E. ½ E.
♄ —— 3.	Noon.	43 45		40 $41\frac{1}{3}$	29,6	63	60		Cape Farewell E. N. E. ½ E. Rocky Point S. by E. ½ E.
	15 35 23	12 $10\frac{1}{2}$	155 42 34	40 32	29,6	63	60	6	Off Cape Farewell.
	6 9 44	9 $59\frac{3}{5}$	156 42 28	40 18	29,65	64	63	6	In the entrance of Cook's Straits.
☉ —— 4.	Noon.	43 $38\frac{1}{4}$		40 $16\frac{1}{4}$					Stephens's Island S. E. distant 4 or 5 leagues.
	15 17 $51\frac{1}{2}$	14 $7\frac{4}{7}$	156 58 6	40 20	29,8	$66\frac{1}{2}$	63	6	Stephens's Island S. E. by S. and Blind Bay S. W. by S.
	5 59 $56\frac{1}{2}$	9 $19\frac{1}{4}$	157 34 $1\frac{1}{2}$	40 33	29,8	66	63	6	In Cook's Straits.
☽ —— 5.	Noon.	42 $48\frac{1}{2}$		40 $52\frac{1}{2}$					In Admiralty Bay.
	15 32 24	10 34	157 31 47	40 55	30,0	66	61	6	Point Jackson S. E. ½ E. about 3 leagues dist.
	6 4 32	9 $19\frac{1}{4}$	157 47 52	41 03	30,05	66	63	6	Off the entrance into Q. Charlotte's Sound.
♂ —— 6.	Noon.	42 $15\frac{1}{2}$		41 $03\frac{7}{8}$	30,15	65	$61\frac{1}{2}$		In the entrance of Q. Charlotte's Sound.
☿ —— 7.	20 28 2,	or 9 h. 39′ 24″ apparent time; end of the lunar eclipse.							
	20 31 4,	or 9 h. 42′ 26″ apparent time; the ☽ was clear of the penumbra.							
	6 22 $2\frac{3}{5}$	12 $15\frac{3}{11}$	158 1 9	41 $5\frac{1}{6}$	30,1	66	52	8	In Q. Charlotte's Sound.
♄ —— 10.	Noon.	40 $46\frac{1}{2}$		41 $5\frac{7}{8}$	29,85	56	56		Ditto.

♂ —— 20. Mr. Bayley compared the Watch with the Astronomical Clock, by which the times of equal altitudes of the Sun had been noted, (See p. 47.) and it appears from thence, that the Watch was 13 h. 16′ 23″,4 too slow for mean time that day at noon, at Queen Charlotte's Sound. Mr. Bayley found it too slow for mean time at the Cape of Good Hope, on ☉, November 22, 1772, at noon, by 1 h. 55′ 12″,6; therefore, allowing it to have lost ever since, at the rate it was then going, (20″,3 a day) it ought to be too slow for mean time at the Cape, on April the 20th, 1773, at noon, by 2 h. 45′ 28″,5; and of course it will make the difference of Longitude between this place and the Cape of Good Hope 157° 43′ 43″½, or 176° 6′ 58″½ between this place and Greenwich.

If we compute all the way from England, at the rate it was going at Greenwich, it will make this place 109 59 39 East of Drake's Island, in Plymouth Sound, or 195 43 31½ East of Greenwich.

June 7th we left Queen Charlotte's Sound, on which day at noon Mr Bayley calculates that the Watch was 1h 0′ 5″ too slow for mean time at that place; on which supposition, and that its rate of going was losing 25,66 a day on mean time, (See p. 48.) he computed the following Longitudes of the ship. He moreover supposes, that the true Longitude of Queen Charlotte's Sound is 173 56 30 East, which is what his Observations, made there this time, give it.

1773	Time by No 1 H ′ ″	Altitude of the ☉ L L	Longitude East of Greenwich °	Latitude of the Ship South	Barometer	Thermom C	Thermom D	No of	Remarks
☽ June 7	6 29 16	6 26⅓	174 23 3	41 10½	30 1	59	49½	6	
☿ —— 9	6 11 48	5 4½	179 0 4½	43 49⅗	29,6	59	53	6	
♄ —— 12	7 15 18½	13 14⅔	184 31 24	46 17	29,95	60	50	6	
☽ —— 14	Noon	19 50		46 43¾	29 6	61	48½		A little hazy
♂ —— 15	Noon	19 45		46 46½	29 7	61	49		Good
	12 29 20	9 18	185 2 55	46 51	29 8	60	48	6	
♃ —— 17	Noon	20 6		46 19¼	29,8	59	49		Good
♀ —— 18	Noon	20 35		45 49⅞	29 9	59½	49		Good
	5 57 5	7 41⅙	189 40 50	45 15	30,1	58½	47¾	6	
	7 19 2 / 10 5 27	16 12 / 20 17		45 12¼	☉ N N E at first Observation. Ship's course E N E at the rate of 3½ miles an hour				
♄ —— 19 / ☉ —— 20	8 38 32 / 9 38 0	21 34 / 21 24		44 30	☉ N ¼ E at first Observation. Ship's course N E by E ½ E at the rate of three miles an hour				
☽ —— 21	5 54 1	10 44¼	195 34 40	44 30	30,4	59	51	5	
♂ —— 22	Noon	21 50		44 32½	30,15	59½	52		
☿ —— 23	Noon	21 47		44 35 9/10	30,0	62	50		
♀ —— 25	5 42 11⅓	11 3⅓	196 55 45	42 58	29,45	62	52	6	
♄ —— 26	Noon	23 22		43 5⅓	29 3	67	55		
☉ —— 27	Noon	24 5		42 23⅓	29,35	63	53		Bad horizon
	8 36 44	11 29⅕	197 40 12	42 24	29,4	62	52	5	
☽ —— 28	Noon	24 8		42 24	29,35	64	53		Hazy
	4 37 54	3 49 7/10	198 24 52	42 40	29,45	62	53	6	
♂ —— 29	Noon	23 49		42 45	29 35	67	53		
	11 41 56	11 28 9/10	198 24 54	42 52	20,55	70	52	6	
	5 30 1	11 11⅓	199 13 12	42 56	29,55	63	51	6	
☿ —— 30	Noon	23 39		42 59¾	29,45	63	51		
	5 47 17⅓	14 5 9/10	201 11 21	43 7	29,7	62	49	6	
♃ July 1	Noon	23 36		43 5½	29,65	63	50		
	4 38 39	6 26 1/12	202 44 40	43 0	29,8	62	49	6	
♀ —— 2	Noon	23 47		42 59	29,75	64	51		
	11 50 32	7 59 1/12	202 59 41	43 0	29,85	66	50	6	

1773.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of Greenwich. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♀ July 2.	4 36 44	6 52⅙	204 1 39	43 9	29,65	60	47½	6	
♄ —— 3.	Noon.	23 37		43 13½	29,8	67	53½		
	11 38 31⅓	8 32$\frac{11}{12}$	204 39 30	43 17	29,65	64	51	6	
☉ —— 4.	Noon.	22 58		43 57½	29,9	59	50½		
	11 24 32	9 39⅓	205 23 34	43 47	29,9	61	48½	6	
☽ —— 5.	4 32 37	9 20½	207 59 8	42 17	29,75	59	52	6	
♂ —— 6.	Noon.	25 1		42 5½	29,75	61½	52½		
	11 30 31½	8 43½	208 16 25	41 52	29,85	59	49	6	
	4 5 24½	6 43⅓	208 50 6	41 21	29,6	59½	52	6	
☿ —— 7.	Noon.	25 55		41 17½					
	4 7 34⅔	7 43⅙	210 22 54	41 51	29,55	59	52	6	
	6 40 30	23 33	Pocket Watch.	41 57	☉ north at the first Observation. Ship's course E. S. E. at the rate of six miles an hour.				
♃ —— 8.	8 34 15	24 27							
	4 17 50	10 3⅔	212 43 48	42 33	29,75	59½	52½	5	
♀ —— 9.	Noon.	24 48		42 38⅙	29,9	60	51½		
	11 16 15	7 35⅓	213 12 16	42 43	29,85	60	51½	6	
	4 6 3⅔	9 25⅔	215 21 13	43 28	29,8	58	55	6	
	4 34 49	13 7	Pocket Watch.	43 38⅓	☉ N. N. E. ½ E. at the first Observat. Ship's course E. S. E. ½ E. Dist. run 20 miles.				
♄ —— 10.	8 13 16	23 1							
	4 2 9½	10 13½	217 43 30	43 32	30,0	57	46	5	
☉ —— 11.	Noon.	24 11		43 30⅙	30,15	61	47		
	3 40 46	8 43$\frac{11}{12}$	219 34 33	43 16	30,25	59	47	6	
☽ —— 12.	Noon.	24 36		43 13½	30,3	59½	51½		
	3 15 56	6 16	220 44 37	43 0	30,25	60	55	6	
♂ —— 13.	Noon.	25 0		42 57⅓					
♃ —— 15.	4 3 53	15 39½	223 39 55	41 34	29,35	55½	47	6	A high sea.
♀ —— 16.	Noon.	27 2		41 23	29,4	62	50½		
	3 33 20½	14 31⅓	226 4 18	39 58	29,6	50½	45	6	A rough sea.
♄ —— 17.	Noon.	28 52		39 42½	29,8	52	44		
	2 48 54½	9 31⅓	226 35 56	38 4	30,2	51	45	6	
☉ —— 18.	Noon.	30 53		37 51⅔	30,25	61	50½		
	10 51 59	6 40½	226 37 45	37 41	30,35	56	47½	6	
☽ —— 19.	Noon.	32 25		36 30½	30,2	61	54½		
	10 49 41	7 40	226 55 10	36 20	30,1	57	55	6	
	2 34 17	9 7⅞	226 48 45	35 36	30,25	58½	54½	6	
♂ —— 20.	Noon.	33 47:		35 19½	30,15	62	55		Flying clouds.
♃ —— 22.	Noon.	38 26		31 3½	29,75	65	64		
	11 20 48	6 11⅓	225 24 36	30 46	29,7	67	64	3	
	2 23 47	9 48⅔	225 11 30	29 33	29,85	66	62½	6	
♀ —— 23.	Noon.	40 20::		29 21½	29,9	66	64		Very hazy.
☉ —— 25.	7 39 19	38 47	Pocket Watch.	29 46	☉ N. W. ½ W. at second Observ. Ship's course N. E. distance run 9 miles.				
	9 32 36	26 19							
	2 6 50⅓	7 2$\frac{1}{12}$	224 40 8	29 3	29,85	70	66	6	
☽ —— 26.	Noon.	41 26		28 53⅙	30,0	70	68		
	11 24 54	6 54½	224 58 31	28 34	29,95	70	67	6	

1773	Time by No 1 H ′ ″	Altitude of the ☉'s L L ° ′	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Thermometer C	D	No of Obs	Remarks
☽ July 6	2 11 1½	9 1¼	225 13 15	8 0	29 95	71	68	6	
♂ —— 27	Noon	42 57		27 55½	30 0	71	69		
	11 16 54	8 36¾	225 13 42	27 51	29 9	69	67	6	
☿ —— 8	Noon	43 4		27 42¼	30 1	70	69		
♃ —— 9	Noon	43 31		27 29½	30,0	72	70		
	10 55 47	13 14¾	224 12 53	27 20	29,95	70	68	4	
♀ —— 30	Noon	44 10		27 3½	30,0	72½	71		
	11 11 56	9 59¼	225 13 15	26 57	30,0	73½	69	6	
♄ —— 31	Noon	45 9		26 19¾	29,75	70½	67		
	11 13 4	9 50⅓	225 46 0	26 10	29,8	71	67½	6	
☉ Aug 1	1 56 16	10 33¼	226 48 9	23 28	30,1	69	67	6	
☽ —— 2	Noon	48 45		23 14	30,05	70½	70		
	11 32 2	6 29½	226 42 42	23 5	30,0	69	68½	6	
	1 34 12	6 46⅞	227 2 31	22 26	29,9	71	71	6	
♂ —— 3	Noon	50 4		22 10⅘	30,15	72	72		
	2 10 25	15 10⅙	227 17 19	21 34	30 1	72½	71½	6	
☿ —— 4	Noon	51 8		21 22½	30,05	74	75		
	1 31 31	8 22½	228 21 48	20 48	30 0	74	76	6	
♃ —— 5	Noon	52 7		20 39¼	30,15	77	77		
	1 24 2	8 10	229 21 0	19 54	30 05	77	76	6	
♄ —— 7	Noon	54 28		18 51⅞	30,1	74	71		
	3 2 32	27 29³⁄₁₀	226 3 34	18 14	30,1	74	76	6	
☉ —— 8	Noon	52 32		18 4½	30,05	75	76		
	2 38 28½	21 3¼	223 51 22	17 45	30 1	75	75	6	
☽ —— 9	Noon	56 12		17 41⅛	30,25	75½	75		Hazy
	2 42 50	20 37	221 47 0	17 25	30,25	76	75	6	
♂ —— 10	Noon	56 47		17 23⅗	30, 5	77½	75½		
	2 31 27	16 46	219 52 0	17 17	30 05	77	77	6	
☿ —— 11	Noon	57 12		17 16	30,1	77	79		
	2 48 9	19 22	218 17 8	17 12	30,0	77	77	6	
♃ —— 12	Noon	57 37		17 10	30,0	77½	79½		
	2 0 30	7 51¾	217 4 10	17 14	30 1	77	78½	3	
♀ —— 13	Noon	57 49		17 14¼	30,1	78	80		
	2 15 29	10 6½	215 31 43	17 17	30,2	79	79	6	
♄ —— 14	Noon	58 6		17 17	30,0	78½	79½		
	12 16 9	9 11	214 44 46	17 20	30 15	78	77½	4	
	2 11 50	7 50⅕	213 46 50	17 41	30,1	78	78½	6	
☉ —— 15	Noon	57 56		17 46½	30,05	78½	80		
	2 32 37	11 46¾	212 43 15	17 48				6	
☽ —— 16	Noon	58 15		17 46					
—— 17	Noon	58 41		17 39⅓					
♃ —— 19	Noon	9 14		17 44⅞					
♀ —— 20	Noon	59 33½		17 44					Made in Oaitepeha Bay
	11 25 43	21 41	213 5 12	17 44¾				6	on the N W side of the
♄ —— 21	Noon	59 53½		17 45					lesser peninsula of Ota-
	11 47 10	10 50½	213 9 46	17 44¾				6	heite

1773.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of Greenwich. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
☿ Aug. 25.	Noon.	61 36		17 24 1/3					
	12 4 55	12 47 7/8	213 8 6	17 27				6	Point Venus W. 3 or 4 miles

♃ —— 26. The Watch was carried on shore at Point Venus, and on the 27th compared with the Astronomical Clock, by which the times of equal altitudes had been noted: (See page 52) from whence I have computed that the Watch was too slow for mean time, at Point Venus, on August the 27th, at noon, by 16h. 48′ 44″,7, and of course it will place Point Venus 39° 17′ 35″ to the Eastward of Queen Charlotte's Sound, in New Zealand. By allowing its Greenwich rate, I find that it makes Point Venus 253° 30′ 36″ East of Drake's Island, in Plymouth Sound; that is, 249° 14′ 28″ East of Greenwich.

Mr. Bayley's computations make the Watch to be losing here at the rate of 46″ 1/3 a day, and too slow for mean time, on ☽ August the 31st, at noon, by 16h. 51′ 51″; on which suppositions, and that the true Longitude of Point Venus is 210°. 27′ 30′ East of Greenwich, he has computed the following Longitudes of the Ship.

1773.	Time by No. 1.	Altitude of the ☉'s L. L.	Longitude East of Greenwich.	Latitude of the Ship South.	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♀ Sept. 3.	Noon.	65 28 1/3		16 45 1/3	30,0	77	77		In Owharre Harbour, on the West side of the Island Huaheine.
	12 11 12	11 52 1/2	208 50 50		30,1	76	76	6	
♄ —— 4.	Noon.	65 50 1/2		16 44 5/6	30,1	78 1/2	78 1/2		
	12 1 21	14 2 1/4	208 51 42		30,0	76	77	6	
☉ —— 5.	12 8 44	12 10 1/4	208 51 16		30,0	77 1/2	79	4	
☽ —— 6.	12 28 11	7 27 1/3	208 51 14		30,0	78	77	6	
♂ —— 7.	Noon.	66 43		16 59 2/3					Off the S. end of Uliatea.
	12 13 13	11 17 3/4	208 8 39	16 58	30,1	77 1/2	77	6	
♃ —— 9.	11 51 43	16 3 1/4	208 22 9	16 45 1/3	30,1	79	78	6	In Ohamaneno Harbour, on the West side of Uliatea.
☉ —— 12.	11 16 55 1/3	23 50 1/3	208 9 10	16 45 1/3	30,2	79	80	6	
♃ —— 16.	4 19 14	46 11 1/6	208 17 37 1/2	16 47	30,1	77	78 1/2	6	
♀ —— 17.	Noon.	70 41		16 50 1/2	30,05	78	78 1/2		
	12 11 37 2/3	10 58 2/7	207 32 19	16 56				3	
♄ —— 18.	Noon.	70 39		17 15 9/10	29,9	77	78 1/2		
	12 21 53 2/3	9 31 1/4	206 17 52	17 23	30,1	77	77 1/2	3	
	2 5 11	13 31 2/7	205 53 27	17 36	29,95	77 1/2	77 1/2	6	
☉ —— 19.	Noon.	70 38 1/2		17 39 1/6	29,95	78	78 1/2		
	2 21 51	16 45	204 45 46	17 55	29,95	77	76 1/2	6	
☽ —— 20.	Noon.	70 40		18 1 2/3	30,0	78	80 1/2		
	2 23 29	16 42 1/6	203 52 46	18 20	29,95	77	78	6	
♂ —— 21.	Noon.	70 42		18 23 1/5	29,9	80	80		
	12 28 34	10 3 2/3	203 32 33	18 27	30,0	77	76 1/2	6	
☿ —— 22.	Noon.	70 49		18 39 2/3	30,0	78	77		
♃ —— 23.	Noon.	70 46		19 5 1/10	30,0	74 1/2	74		
	2 47 22 1/2	19 41 1/5	200 0 36	19 22	29,9	75 1/2	73 1/2	6	
♀ —— 24.	Noon.	70 47		19 28 1/2	30,05	76	74 1/2		
	12 37 25	11 43 3/4	199 3 45	19 36	30,0	73 1/2	72 1/2	6	
♄ —— 25.	Noon.	70 47		19 52 1/5	30,05	75	74 1/2		
☉ —— 26.	12 42 11	13 56 9/10	195 9 10	20 33	29,9	71	71 1/2	5	
☽ —— 27.	Noon.	70 47		20 39 1/3	29,95	72	72 1/2		
♂ —— 28.	Noon.	70 46		21 3 9/10	30,00	72	74		
	3 53 53	27 43 2/3	190 10 29	21 25	30,0	74	72	6	

1773	Time by No 1 H ′ ″	Altitude of the ☉'s L. L ° ′ ″	Longitude East of Greenwich ° ′ ″	Latitude of the Ship South	Barometer	Thermom. C	Thermom. D	No of Obs	Remarks
☿ Sept 29	Noon	70 45		21 28	30,1	73	72		
	13 7 18$\frac{1}{4}$	13 3$\frac{3}{8}$	189 13 36	21 27	30,15	72	70	6	
♃ — 30	Noon	71 25		21 11$\frac{9}{10}$	30,0	71	70		
♀ Oct 1	Noon	71 40		21 20$\frac{1}{3}$	30,0	70	72		
	12 41 59	22 14$\frac{9}{10}$	185 33 40	21 19	30,0	70	69	6	
♄ — 2	Noon	72 20$\frac{1}{4}$		21 21$\frac{1}{4}$	30,05	71	71		At anchor under the N W side of Eaoowe, or Middleburgh
	13 24 9	12 49$\frac{1}{4}$	185 6 32	21 21$\frac{1}{4}$	30,05	70	68	6	
☽ — 4	Noon	73 6		21 4	30,05	72	72	2	At anchor off the North Point of Tonga Tabu, or Amsterdam
♂ — 5	13 2 16	17 55	184 41 34		30,05	73	70	3	
☿ — 6	Noon	73 51$\frac{1}{4}$		21 5	29,95	74	73	2	
	6 56 45	66 6$\frac{1}{4}$	184 44 9		30,1	72	71	10	
♃ — 7	Noon	74 16		21 4$\frac{2}{3}$	30,0	73	71		
	13 20 28$\frac{1}{3}$	13 26	184 44 45	21 9	30,0	71	71	6	
♀ — 8	Noon	72 41		22 1	29 95	75	71		
	4 14 46	31 26	184 49 0	22 21	30,05	73	70	6	
♄ — 9	Noon	73 40		22 25	30,0	73	71		
	3 9 16$\frac{1}{4}$	16 6	183 59 10	22 37	30,0	72	69	10	
	5 22 46$\frac{1}{3}$	46 29$\frac{1}{4}$	184 2 21	22 40	30,05	73	70	6	
☉ — 10	Noon	73 43		22 45$\frac{1}{4}$	30,05	71	69		
	5 19 34	44 40	182 40 10	23 47	30,05	70	67	3	
☽ — 11	Noon	72 57		23 53$\frac{7}{8}$	30,0	70	68		
	3 52 11	24 21$\frac{1}{4}$	182 41 0	25 7	30,05	70	67	3	
♂ — 12	Noon	71 43		25 30$\frac{7}{8}$	30,1	71	68		
	3 56 53$\frac{1}{4}$	24 53$\frac{3}{4}$	180 48 52	26 53	30,2	70	68	6	Flying Clouds
☿ — 13	Noon	70 25		27 11$\frac{1}{3}$	30,2	70	68		
	3 26 51	17 58$\frac{1}{3}$	180 7 41	28 24	30,1	70	66	3	
♃ — 14	2 53 27	10 47$\frac{3}{8}$	179 31 54	29 48	30,15	70	65	6	
♀ — 15	Noon	68 6		30 15	30,2	69	67		
♄ — 16	Noon	67 5		31 38	30,2	68	66		
	5 17 34	41 34	179 36 33	32 39	30,15	68	67	6	
☉ — 17	Noon	66 22		32 43	30,2	69	67		
	14 3 12	8 39	179 18 0	32 50	30,15	68	65	3	
☽ — 18	Noon	65 40		33 47$\frac{1}{3}$	30,0	68	67		
♂ — 19	Noon	63 54		35 54$\frac{1}{3}$	29,85	69	65		
	3 39 50	22 16	179 33 48	37 24	29,65	65	57	6	
☿ — 20	Noon	62 26		37 44	29,65	65	60		
	13 5 42	20 41	179 12 24	38 6	29,65	65	59	6	
	3 44 44	22 45$\frac{5}{6}$	178 37 51	38 58	29,6	66	57$\frac{1}{4}$	6	
♃ — 21	Noon	61 26		39 6$\frac{2}{3}$	29,25	64	64		New Zealand from W S W ½ S to N W by N
	10 56 27	45 30	178 0 32	39 10	29,45	65	60	6	
	13 41 34	14 57$\frac{1}{3}$	177 38 42	39 17	29 45	64$\frac{1}{4}$	59	3	Table Cape due North
	2 49 4	10 54	176 37 0	39 53	29 55	62	56	6	
♀ — 22	Noon	60 39		40 15	29,2	63	59		Black Head N W and Cape Turnagain S 33 W

1773	Time by No 1 H ′ ″	Altitude of the ☉'s L. L ° ′	Longitude East of Greenwich ° ′ ″	Latitude of the Ship South ° ′	Barometer	Thermom C	Thermom D	No of Obs	Remarks
♀ Oct. 22	11 33 49[illegible]	39 38	176 30 10	40 30	29,2	65	57	3	Between Cape Turnagain and the Black Head.
	12 43 2$\frac{1}{2}$	26 58$\frac{1}{8}$	176 28 21	40 30	29,6	62	58	6	
♄ —— 23	Noon	60 22		40 53[illegible]	29,55	64	56		Cape Turnagain N N W [illegible] W and Flat Point S W $\frac{1}{2}$ W
	10 53 19$\frac{1}{2}$	46 36	176 9 37	40 51	29,65	64	55[illegible]	6	
	13 18 26$\frac{1}{2}$	20 54$\frac{1}{2}$	176 15 43	40 53$\frac{1}{2}$	29,5	63[illegible]	55	6	
☉ —— 24	11 12 5	43 38$\frac{1}{8}$	175 42 51	41 30	29,4	64	60	6	Cape Palliser W S W [illegible] W dist 8 or 9 leagues
	13 4 43[illegible]	23 34	175 37 56	41 32	29,5	62	58	6	Cape Palliser due West about 9 or 10 leagues
☽ —— 25	Noon	59 39		42 18					A little hazy
	4 11 1	26 30[illegible]	175 2 23	42 55	29,65	62	55	6	
♂ —— 26	Noon	59 45		42 32$\frac{1}{8}$	29,6	60	54[illegible]		
☿ —— 27	Noon	60 21		42 17[illegible]	29,65	61	56		Hazy
	4 39 39	32 27$\frac{1}{3}$	174 52 22$\frac{1}{2}$	42 19	29,5	61	53	6	
♃ —— 28	Noon	60 40		42 18$\frac{1}{3}$	29,25	62	56		
	3 26 51$\frac{1}{2}$	19 41[illegible]	175 9 39	42 00	29,6	60	54	6	
♀ —— 29	Noon	61 28		41 50$\frac{1}{4}$					A little hazy
	14 30 22[illegible]	8 37$\frac{1}{3}$	174 48 10	41 48[illegible]	29,6	59	54$\frac{1}{2}$	3	
♄ —— 30	Noon	61 44		41 53[illegible]	29,55	59	60		
☉ —— 31	Noon	61 26		42 31$\frac{9}{10}$	29,7	64	64[illegible]		
	14 18 47	10 50$\frac{1}{8}$	174 57 32	42 32	29,35	57	55	6	
☽ Nov 1	3 24 3$\frac{1}{2}$	20 30	175 1 57	41 23	29,5	60	58	6	
♂ —— 2	Noon	62 59		41 37[illegible]	29,65	61	57		
♀ —— 3	Noon	63 35		41 20$\frac{1}{3}$	29 75	60	53		
	13 27 26$\frac{1}{3}$	20 22$\frac{9}{10}$	174 56 46	41 18	29,65	59	54	6	
♃ —— 4	14 21 40$\frac{1}{3}$	11 6[illegible]	173 59 46	41 38	29,6	59	59	6	
♄ —— 6	Noon	64 13		41 37$\frac{1}{3}$	29,6	54	52		
☉ —— 7	Noon	66 27		39 41$\frac{1}{6}$	29,75	57	53		
☽ —— 8	Noon	67 24		39 1[illegible]	29,75	62	63		Table Cape S W b W and Gable End Foreland N W b N
♂ —— 9	2 35 54	14 59$\frac{3}{8}$	176 53 27		29,95	61	57[illegible]	6	In Tolaga Bay
☿ —— 10	Noon	68 38$\frac{1}{6}$		38 21[illegible]	29,95	61$\frac{1}{2}$	57	2	
	2 8 2	10 1$\frac{9}{10}$	176 55 24		29,9	60[illegible]	56	12	
♃ —— 11	Noon	68 56$\frac{1}{3}$		38 20	29,8	61	57		Off the mouth of Tolaga Bay
☽ —— 15	2 19 1	13 26$\frac{9}{10}$	176 56 8		29,8	62	54	6	In Tolaga Bay
♂ —— 16	Noon	70 04		38 31[illegible]	29,95	61	64		
	3 24 53$\frac{1}{3}$	26 10$\frac{1}{3}$	176 29 1$\frac{1}{2}$	39 34	29,8	67	62[illegible]	6	
☿ —— 17	Noon	69 8		39 42$\frac{1}{2}$	29,65	68	67		
	2 53 13$\frac{1}{2}$	20 9$\frac{1}{2}$	176 8 57	39 52	29,8	69	63	6	
♃ —— 18	Noon	69 6		39 59	29,65	68	68		
	12 14 41	33 54[illegible]	176 8 17	40 2	29,65	68	69	6	
☿ —— 19	Noon	68 40		40 39$\frac{1}{6}$	29,55	69	68		
♄ —— 20	Noon	68 30		41 2$\frac{9}{10}$	29,8	65	56		Very hazy

1773	Time by No. 1 H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Thermometers C	D	Gales	Remarks
♄ Nov. 20	13 5 40	15 56½	174 58 30	41 00	29,8	66	55	6	
☉ — 21	Noon	68 41		41 5½	29,75	62	55		
	3 56 27½	32 56½	175 52 30	41 7	29,75	66	54	4	
☽ — 22	Noon	68 55		41 4½	30,1	62	55		
	12 49 15	28 3¼	175 22 42	40 58	30,1	64	56	6	Cape Turnagain W. N. W. distant 7 or 8 leagues
	14 14 9	12 27⅙	175 13 3	40 57	30,1	64	56	6	
♂ — 23	Noon	69 18		40 54⅙	30,2	62	61½		
	11 39 10½	41 29½	175 5 15	40 57	30,25	62	61½	6	Cape Turnagain N. N. W. distant 5 or 6 leagues
☿ — 24	Noon	68 48		41 36½	30,3	63	61½		
♃ — 25	3 2 56	21 52½	173 17 19	42 00	30,1	64	56	6	
♀ — 26	3 15 13	29 40½	173 00 30	42 01	29,95	63	56	6	
♄ — 27	Noon	69 1		41 57⅙	29,9	64	61		
☉ — 28	5 11 33	46 17½	173 27 36	42 4	29,85	65½	57½	3	
☽ — 29	Noon	69 13		42 6½	29,85	66½	60		Hazy
	5 20 43	17 59½	172 53 6	41 12	30,2	63	54	6	

☉ Dec. 7. Mr. Bayley compared the watch with the clock, by which the times of equal altitudes had been noted (see p. 69.) from whence it appears that the watch was 15h 36′ 19″,5 too slow for mean time on that day at noon: and therefore, according to its rate and state with respect to mean time at Point Venus in Otaheite, on August the 31st, the difference of longitude between that place and this will appear to be 37° 48′ 43″½: that is, it makes this place 172° 38′ 16″ E. of Greenwich. If we reckon all the way from England, at the rate it was going, when at Greenwich, it will place Queen Charlotte's Sound 235° 44′½ E. of Drake's Island in Plymouth Sound, or 231° 28′½ E. of Greenwich.

But farther: Mr. Bayley found this watch too slow for mean time at this place, June the 7th at noon, by 13h 36′ 58″,5, and that it was then losing on mean time at the rate of 25″,66 a day: according to which, it should have been too slow for mean time on Dec. 7th, by only 14h 55′ 14″,3, instead of 15h 36′ 19″,5; the difference 41′ 5″,2, = 10° 16′ 18″ in longitude, is what the watch has erred in half a year.

The watch was found now to be losing 44″,924 a day on mean time, and that it was too slow on ♀ December 15th at noon by 15h 42′ 17″,46. Moreover, in computing the following longitudes of the ship, Mr. Bayley has supposed that the longitude of Queen Charlotte's Sound was 174° 1′ 55″½ E. of Greenwich.

☿ — 22	14 16 47	13 50½	174 29 45	41 20	29,8	67	65	6	
♃ — 23	3 0 28	24 45½	174 57 24	42 9	29,9	65	64	6	
	Noon	70 50		42 25½	30,1	66½	66	6	
♀ — 24	12 43 30½	30 22½	175 19 51	42 29	30,0	66	65½	6	
	Noon	70 14		43 00½	30,0	69	64½		
♄ — 25	14 41 28	9 49½	175 10 12	43 24	30,15	66	62	6	
	Noon	68 32		44 38⁹⁄₁₀	30,2	66½	62		Hazy
☉ — 26	3 27 11½	31 16½	176 44 35	45 40	30,1	66	57	6	
	Noon	67 28		45 43	29,8	66	57		
	13 1[illegible]	18 36½	177 10 36	45 47	30,0	65	61½	6	

1773.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude Eaſt of Greenwich. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obſ.	Remarks.
♂ Dec. 28.	Noon.	65 57:		47 8⅓	30,05	64	54	—	Very hazy.
	4 24 52	42 8⅓	178 44 12	47 50	29,95	62	51¼	6	
☿ —— 29.	Noon.	64 55		48 7½	29,9	63	54		
	3 33 3	34 28⅓	180 31 10½	50 52	29,6	56	45	6	
1774. ♄ Jan. 1.	Noon.	61 53		50 56⅞	29,75	55	46	—	
	14 26 12⅓	10 33⅓	181 39 49	51 7	29,75	50	41	6	
	4 11 55⅔	41 54¼	182 51 52	51 28	29,85	52	41	6	
☉ —— 2.	Noon.	61 8		51 36⅔	30,05	57	48		
♂ —— 4.	1 48 12	25 32⅙	191 55 51	55 15	29,65	50	49	6	
☿ —— 5.	Noon.	56 58		55 28⅘	29,4	62	46	—	
♀ —— 7.	1 52 50	31 46⅞	202 26 36	57 8	29,8	55	38	6	
♄ —— 8.	Noon.	54 59		57 5 9/10	29,7	60	40		
	2 5 1½	33 26⅙	202 35 21	57 8½	29,75	54	36	6	
☉ —— 9.	Noon.	54 28		57 28⅔	29,65	55	38	—	
☽ —— 10.	0 39 1	26 55⅚	212 19 28	58 14	28,8	50	35	6	
♂ —— 11.	Noon.	53 21		58 18	28,65	55	36	—	
☿ —— 12.	12 20 0½	10 23	216 29 30	58 45	28,45	56	36½	3	
♃ —— 13.	Noon.	52 35		58 45⅔	28,55	60	41	—	
♀ —— 14.	0 22 17½	29 31⅔	222 19 45	58 48	29,1	51	39½	6	
♄ —— 15.	Noon.	52 10		58 48⅓	29,0	58	38½	—	
☉ —— 16.	Noon.	51 57::		58 50⅓	29,5	57	40	—	
	0 11 16	32 28¼	231 27 32	59 3	29,65	50	39	6	
☽ —— 17.	10 22 31	47 0	Pocket	59 11					☉ N. E. ¼ N. at the firſt Obſerv. Ship's
♂ —— 18.	12 22 38	51 4	Watch.						courſe E. ¼ N. diſtance run 15 miles.
	0 2 59	35 40⅓	240 23 49	59 23	28,6	51	42	6	
☿ —— 19.	Noon.	50 47		59 24⅗	28,75	54	41	—	
	6 14 29	41 1½	242 4 51	59 26	28,7	59	40	6	
	6 27 37	39 34½	242 12 1½	59 26		59	40	3	
	7 29 59	32 10⅓	242 26 14	59 28	28,4	59	39½	6	
♃ —— 20.	Noon.	50 7		59 52⅓	28,45	58½	41½		
♀ —— 21.	Noon.	49 37		60 9⅓	28,35	59	41½		
	9 1 56⅔	17 25½	248 2 38	60 9⅓	28,55	58	40	3	
♄ —— 22.	Noon.	50 2		59 31⅙	28,75	56	42		
	8 55 11	16 39¼	250 28 34	59 23	28,5	59	40	6	
	22 29 26½	29 22	251 54 23	59 17	28,55	52	40	3	
☉ —— 23.	Noon.	50 4		59 15½	28,5	57	42	—	
☽ —— 24.	Noon.	49 32		59 33⅓	28,85	60	38½	—	
	9 3 2	11 49	257 29 12	59 37	29,0	57	42	4	
♀ —— 28.	Noon.	46 20		61 46					
	6 39 38	20 5⅓	274 27 34	61 47	29,25	63	41	6	
	21 9 9½	30 18½	277 28 6	61 45					
	22 45 26	39 56	Pocket	61 50					☉ N. by E. at the firſt Obſervation. Ship's
♄ —— 29.	0 34 11	45 46	Watch.						courſe N. E. by E. diſtance run 10 miles.
	20 25 23	27 42½	282 49 57	61 37	29,4	54	41½	6	
☉ —— 30.	Noon.	46 0		61 34⅔	29,35	61	42½		

1774	Time by No 1 H	Altitude of the ☉'s L L	Longitude East of Greenwich	Latitude of the Ship	Baro-meter	Thermom C	Thermom D	[illegible]	Remarks
♂ Feb 1	8 25 1	53 54⅚	297 40 29	60 48	9 [illegible]	51	41	6	
☿ —— 2	Noon	46 0		60 44					
	17 46 9	16 55	301 34 27	60 39	29,5	54	41	6	
	19 34 28	30 18	302 23 12	60 38	29,5	55	41	6	
	21 07 7	39 47	Pocket Watch						O N ¼ E at the first Observat. Ship
♃ —— 3	22 35 51	45 11		60 36					course N E by E dist run 12 miles
☉ —— 6	16 33 24	13 37⅓	314 41 37	59 30	29,2	52	35	5	
☽ —— 7	Noon	45 59		59 16	29,2	57	41		
	19 22 58	35 28	316 56 41	58 38	29,8	54	35	4	
	19 23 30	35 33							O N N E at first Observation Ship's
♂ —— 8	22 26 30	46 25		58 30					course N E N dist run 1[illegible] mile
☿ —— 9	Noon	47 17							
☿ —— 16	1 16 49	24 17⅙	336 35 34	57 20⅓	29,85	57	37		
♀ —— 18	19 53 10	46 30		53 55	29,4	61	39	6	
♄ —— 19	20 53 10	47 2		54 0					O N ¼ E at the first Observ. Ship's course N E by N dist run 2½ miles
	19 47 37	47 1							
☉ —— 20	20 37 27	47 30		53 20	29,7	56	37		
	0 4 51	28 35⅓	344 26 0	53 21	29,75	57	38	6	
	7 33 47	36 52	346 30 55	53 24	29,0	52	39	6	
☽ —— 21	Noon	47 10		53 23⅘	29,1	55	39		
	1 9 26	16 52	347 47 51	53 24	29,4	56	30	3	
	14 48 59	15 27⅓	349 6 44	53 14	30,05	53	37	6	
♂ —— 22	Noon	47 01		53 11	29,95	57	40		
	1 22 9½	13 18⅓	349 57 6	53 14	30,0	52	39	3	
♃ —— 24	Noon	46 42		52 46¾					
	0 40 51	14 43	356 30 46	52 51	29,25	56	39	6	
	4 33 59	34 30	Pocket Watch						
	6 20 35	44 15		53 15					O N E ¼ E at the first Observation Ship's course E by S 10 miles
♀ —— 2	4 49 26	16 13	359 53 27	53 25	29,0		38	3	
♄ —— 26	14 9 16	17 11⅓	3 21 33	53 24	29,4	49	37	6	Altitudes of Spica by

Here Mr Bayley having completed 360° of longitude, or one revolution round the globe from the meridian of Greenwich eastward, to the meridian of Greenwich again rejected 360° and repeated February 26, in order to bring his day to correspond with that at Greenwich

1774	Time by No 1 H	Altitude of the ☉'s L L	Longitude East of Greenwich	Latitude of the Ship	Baro-meter	Thermom C	Thermom D	[illegible]	Remarks
♄ —— 26	Noon	45 56							
	23 48 12	16 10		53 27	29,6	55	37		
☉ —— 27	Noon	44 7	4 55 48	53 33	29,55	59	37	6	
♂ March 1	23 53 26	11 8¼		53 53	29,5	57	40		
	15 18 27	29 55	9 56 40	53 48	28,85	57	34	6	
	15 48 26	33 26	11 9 3	54 5	29,2	52	35	6	
	17 52 40	42 25							O N E by E at the first Observ. Ship
☿ —— 2	14 20 38⅓	23 30		54 4					course E S E ½ E dist run 7 miles
♃ —— 3	Noon	43 12	13 13 15	53 38	29,2	34	34	6	A high sea
	23 49 54	8 41⅓		53 17¾					
♄ —— 5	21 46 1	44 58	13 30 22	52 56	29,65	56	34	6	
	21 46 1	25 56	15 3 45	50 45⅓	29,9	57	38		
				50 38	29,2	50	43	3	

1774.	Time by No. 1.	Altitude of the ☉'s L. L.	Longitude East of Greenwich.	Latitude of the Ship South.	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
	H ′ ″	° ′	° ′ ″	° ′					
☽ March 7.	Noon.	46 25		48 32$\frac{1}{2}$	29,85	57	41		
	18 47 18	45 6$\frac{1}{8}$		48 15	29,8		40	6	
	22 51 36	14 35$\frac{1}{4}$	16 42 3	48 15	29,95	57	39	6	
	12 55 47$\frac{1}{2}$	13 24	16 39 57	47 53	30,0	38	38	8	
♂ —— 8.	Noon.	46 57		47 36$\frac{1}{2}$	29,75	59	40		
♃ —— 10.	Noon.	50 33		43 13$\frac{4}{5}$	29,85	59	47$\frac{1}{2}$		
	22 39 3$\frac{2}{5}$	15 39$\frac{1}{4}$	17 21 31	42 49	29,7	60	49	6	
♀ —— 11.	Noon.	51 35		41 48$\frac{1}{6}$	30,05	61	55		
	14 5 41	27 17$\frac{5}{6}$	17 43 37	41 24	29,8	57$\frac{1}{2}$	61$\frac{1}{2}$	6	
♄ —— 12.	12 25 14	9 13$\frac{1}{3}$	17 38 31	40 23	29,6	62	64	6	
☉ —— 13.	Noon.	52 36		39 59	29,6	65	60	—	
	22 19 47	17 38$\frac{1}{6}$	18 27 0	39 37	29,55	63	61	3	
	12 53 4$\frac{1}{2}$	15 33$\frac{1}{3}$	19 0 12	38 0	29,75	64	64$\frac{1}{2}$	6	
☽ —— 14.	Noon.	54 40		37 32$\frac{1}{2}$	29,7	65	65$\frac{1}{2}$	—	
	22 34 59$\frac{2}{3}$	14 21$\frac{5}{6}$	18 53 0	37 3	30,0	67	62	3	
♂ —— 15.	Noon.	56 17		35 31$\frac{1}{4}$	30,2	67	69	—	
	22 34 44$\frac{2}{3}$	14 3$\frac{1}{2}$	19 4 48	35 18	30,25	66	68	3	
☿ —— 16.	Noon.	56 47$\frac{1}{2}$		34 37$\frac{1}{2}$	30,05	70	69$\frac{1}{2}$		
	20 37 3	16 29$\frac{2}{3}$	19 21 25	34 35	30,1	69	68$\frac{1}{2}$	6	
	12 45 33$\frac{1}{2}$	15 21$\frac{2}{3}$	20 0 13	34 21	30,15	68	68$\frac{1}{4}$	6	
♃ —— 17.	Noon.	56 48$\frac{1}{2}$		34 12$\frac{9}{10}$	30,0	70	69$\frac{1}{2}$	—	
	22 11 10	16 54$\frac{1}{2}$	20 35 16$\frac{1}{2}$	34 10	30,0	70	70	6	In sight of the Table Hill.
♀ —— 18.	21 52 56$\frac{1}{2}$	20 0	20 51 25$\frac{1}{2}$		30,0	69$\frac{1}{2}$		6	Off the entrance into Table Bay, at the Cape of Good Hope.

☿ —— 23. Mr. Bayley compared the watch with his clock, by which the times of equal altitudes of the sun had been noted, (see p. 77). From whence it appears that the watch was 6 h. 45′ 23″ too slow for mean time at the Cape, on that day at noon; and by comparing this with the time shewn by it at Queen Charlotte's Sound, in December last, and allowing the rate it was then going at, I find that it makes the difference of longitude between this place and that 207° 20′ 53″; that is, it makes the Cape Town 21° 22′ 48″ east of Greenwich, or 2° 59′ 33″ greater than the truth. Computing all the way from England, at the rate it was going when at Greenwich, it puts the Cape Town 103° 21′ 54″ to the eastward of Drake's Island in Plymouth Sound, or 99° 5′ 46″ east of Greenwich; that is, 80° 42′ 31″ more than it ought to be.

But farther: Mr. Bayley computed that this Watch was 1 h. 55′ 12″,6 too slow for mean time, at this place, on ☉ November 22, 1772, and it was then losing at the rate of 20″,2727, &c. a day; consequently, it should have been too slow on March 23, 1774, by 4 h. 5′ 37″87 only, instead of 6 h. 45′ 23″: the difference, 2 h. 39′ 45″13 = 39° 56′ 17″ in Longitude, is what the Watch has erred from itself in 16 months.

Lastly, Mr. Bayley found that it was now losing 1′ 3″,668 a day on mean time, and that it was too slow on ☉, April the 10th, at noon, by 7 h. 4′ 29″91 on which suppositions, and that the Longitude of the Cape Town is 18° 23′ East, the following Longitudes of the ship are computed.

1774.	Time by No 1 H ' "	Altitude of the ☉'s L L	Longitude East of Greenwich ° ' "	Latitude of the Ship South	Barometer	Thermom C	Thermom D	[illegible]	Remark
♄ April 16	20 44 12	18 42$\frac{9}{10}$	18 22 28	33 49	30 05	72	—	6	Cape Town S S I
	12 31 14	15 21	17 35 44	33 18	30,1	68	64	5	
☉ —— 17	Noon	46 1		33 12¼	30,1	65	65		
☽ —— 18	12 42 59½	15 41	16 21 48	32 58	29,87	64½	64		
♂ —— 19	Noon	45 28		33 4½	29,9	70	66	5	
	12 10 53	9 35⅕	16 15 9	32 38	30 15	70	64	6	
☿ —— 20	Noon	45 38		32 33$\frac{9}{10}$	30 1	69	71		
	20 27 25	22 16⅓	16 2 15	32 28	30 0		64	6	
	13 5 47½	19 28½	14 42 0	31 26½	30,05	70	63½	6	
♃ —— 21	Noon	16 38		31 13½	29,65	70	63½		
	12 21 54½	10 9¾	13 3 58½	30 23	29,9	68	63	6	
♀ —— 22	Noon	47 15		30 16	29,85	68½	66½		
	21 57 30	7 16⅓	13 3 48	30 08	29,95	67	64	6	
	12 6 28	7 25⅓	13 8 15	29 27	30,05	69	5	6	
♄ —— 23	Noon	47 55		29 14	30,[illegible]	70	66		
☉ —— 24	Noon	49 6		27 44½	0 0	68	66		
	13 36 10	23 54	9 31 18	26 23	30,0	67	64½	6	
☽ —— 25	Noon	50 18		26 1	29 9	70½	67		
	12 31 18	10 6	8 14 22	25 6	30,15	67	66	6	
♂ —— 26	Noon	51 14		24 57	30 0	0	69½		
	12 20 41½	7 16⅕	6 44 0	24 2	30,05	71	66½	6	
☿ —— 27	Noon	52 4		23 4⅞	29 9	69	70		
	13 28 1	20 56	5 51 22	21 58	29,85	70	66	6	
♃ —— 28	Noon	52 44		22 49	29,9	69	69½		
♀ —— 29	Noon	53 21		21 53	29,95	71½	75		
	22 20 29	9 51	4 9 6	21 45	29,95	70	68	6	
	12 29 52½	7 50½	3 43 1	21 28	30,0	71	69	6	
♄ —— 30	Noon	53 35		21 21	30,0	72	77½		
	13 6 11	15 22	3 0 2	20 56	30,0	—	69½	6	
☉ May 1	Noon	53 46		20 51	30,1	73	76		
	14 22 [illegible]8	30 53⅞	2 23 36	20 30	30,0	73	70½	6	
☽ —— 2	Noon	53 58		20 22½	29,95	73½	70½		
	12 31 30	7 38	2 1 22	19 39	30 0	73½	69	6	
♂ —— 3	Noon	54 30		19 32	30,0	74	74		
	13 3 51	14 40	1 45 24	19 29	30 0	72	71	6	
☿ —— 4	Noon	54 18		19 27	30,0	74	76		
	14 15 43	29 22⅓	1 2 53	18 57	30,0	72	71	6	
♃ —— 5	Noon	54 40½		18 47	30,05	72	73		
	22 42 32⅓	6 42⅙	0 41 48	18 37	30,0	73	70	3	
			West						
	12 54 58	11 53	0 18 33	17 57	29,9	73	70	6	
♀ —— 6	Noon	55 30		17 40$\frac{9}{10}$	30,0	73	73		
♄ —— 7	Noon	56 5		16 49	29,95	73	75		
☉ —— 8	Noon	56 49		15 48	30,0	72	74½		
	21 44 44⅓	22 41⅓	2 58 3	15 41	30,05	72	69	6	
☽ —— 9	22 11 15	18 12⅝	4 18 18	14 36	30,15	73	70	6	

1774.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude West of Greenwich. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♂ May 10.	Noon.	58 42½		13 23¼	30,15	76	75		
	22 3 15	21 42½	5 58 34	13 8	30,15	76	71	2	
☿ —— 11.	Noon.	59 48		12 2¼	30,15	76	75		
	22 27 32	17 56½	7 33 50	11 49	29,8	76	72	6	
	12 51 44	7 $25\frac{1}{6}$	8 18 45	9 32	30,0	76	75	3	
♃ —— 12.	Noon.	60 52		10 $43\frac{1}{15}$	29,95	77	77		
	13 54 55	21 8¼	9 48 10	9 32	30,0	77	76	6	
♀ —— 13.	Noon.	62 5		9 14½	29,95	78	80		
	22 58 16½	14 $0\frac{9}{10}$	10 24 27	8 58	30,0	77	73	6	
	13 11 13	10 25	11 23 43	8 14	29,95	78	75	6	
♄ —— 14.	Noon.	63 9		7 55½	30,0	79½	80½		
	13 30 23	14 $10\frac{3}{8}$	12 51 7	6 51	29,8	78½	77½	6	
☉ —— 15.	Noon.	64 14¼		6 33½	29,85	80	81½		
	23 19 35½	12 $18\frac{2}{5}$	13 27 32	6 16	29,9	81	81	6	
	13 14 31½	9 51⅓	14 23 32	5 30	29,85	79	78½	6	
☽ —— 16.	Noon.	65 23		5 14⅔	29,9	82	82½		
	23 20 37½	13 34½	14 53 13	4 58	29,95	81	82	6	
	13 26 45	11 $59\frac{9}{10}$	15 44 39	4 15	30,0	80½	79½	6	
♂ —— 17.	Noon.	66 24		3 59⅓	29,9	79	78½		
	23 15 24	16 18½	16 20 34	3 41	29,9	81	80½	6	
	13 28 32	11 $39\frac{1}{10}$	17 18 48	2 52	29,95	79	78½	6	
☿ —— 18.	Noon.	67 35		2 35½	30,0	79½	81½		
	23 27 20	15 $12\frac{1}{6}$	17 54 2	2 20	30,0	81½	80½	6	
	13 11 39	7 $18\frac{9}{10}$	18 33 42	1 20	30,0	78½	77	3	
♃ —— 19.	Noon.	68 59		0 58¼	30,0	79	80		
	23 20 11⅓	17 58⅔	18 45 55	0 43	30,0	80	80½	6	
				North.					
♀ —— 20.	Noon.	70 6		0 21½					
	21 10 19	21 1⅙	19 20 53	0 34	29,9		80	6	
	23 47 58	12 $17\frac{1}{10}$	19 23 0	0 35	29,9	79½	80½	3	
♄ —— 21.	Noon.	70 57		1 24⅓	29,95	79½	80		
	0 14 19⅓	7 17¾	20 27 34	1 38	29,9	80	79½	3	
	14 36 11	26 36⅙	21 10 34	2 37	29,9	79	80	6	
☉ —— 22.	Noon.	72 15		2 54½	29,95	82½	82½		
	14 23 46	23 48⅓	21 48 25	3 55	30,0	80½	79	3	
☽ —— 23.	Noon.	73 14 ::		4 $5\frac{1}{15}$	30,0	82	83		Very hazy.
	15 38 18	41 17⅙	21 55 30	4 27	29,95			6	
♂ —— 24.	Noon.	73 34½		4 36⅞	29,95	80	79		
	13 28 1½	11 43¾	21 50 2	5 19½	29,95	80	78	6	
☿ —— 25.	Noon.	74 14		5 27⅙	30,1	83	82		
	13 29 40⅓	14 3⅓	21 48 18	5 51	30,05	82	81	3	
♃ —— 26.	Noon.	74 32		5 55⅓					
	13 35 52½	14 4¾	21 56 8	6 0	29,9	81	77	6	
♀ —— 27.	Noon.	74 25½		5 59½	30,0	82½	81½		
♄ —— 28.	Noon.	74 38 :		6 21½	29,9	81	77		Hazy.
	23 7 44⅔	24 32⅓	22 19 3	6 26	29,95	81½	80	6	

1774.	Time by No. 1 H	Altitude of the ☉'s L. L.	Longitude West of Greenwich	Latitude of the Ship North	Barometer	Thermom. C	Thermom. D	No of Obs.	Remarks
☉ May 29.	Noon	74 45		6 $37\frac{7}{8}$	29,95	80	79		
☽ —— 30	16 20 55	53 $23\frac{1}{3}$	21 24 15	6 36	29 95	78	77		
♂ —— 31	Noon	74 $26\frac{1}{2}$		6 $36\frac{1}{3}$	30,05	80	$79\frac{1}{2}$	3	
	23 12 50	21 $59\frac{3}{5}$	21 24 54	6 38	30,0	79	76		
	11 6 $28\frac{1}{3}$	23 $7\frac{1}{5}$	21 21 6	6 46	30,05	79	$79\frac{1}{2}$	6	
☿ June 1	Noon	74 $29\frac{1}{3}$		6 $47\frac{9}{10}$	30,0	$81\frac{1}{2}$	81	6	
	13 31 7	15 30	21 0 15	7 5	30,0		$79\frac{1}{2}$		
♃ —— 2	Noon	74 41		7 $7\frac{1}{3}$	30,0	$80\frac{1}{2}$	81	6	
	13 20 46	12 $29\frac{1}{10}$	22 3 11	7 10	30,0	79	$79\frac{1}{2}$		
♀ —— 3	Noon	74 36		7 $10\frac{9}{10}$	30,0	80	80	6	
	13 15 8	10 $58\frac{1}{12}$	22 41 37	7 35	29,95	79	$78\frac{1}{2}$		
♄ —— 4	Noon	74 $58\frac{1}{2}$		7 $39\frac{1}{10}$	30,0	80	81	6	
	15 4 46	13 $48\frac{1}{3}$	23 28 50	7 56	30,0	79	$77\frac{1}{2}$		
☉ —— 5	Noon	75 $11\frac{1}{2}$		7 $59\frac{1}{4}$	29,9	80	80	3	
☽ —— 6	Noon	75 20		8 14	30,0	$80\frac{1}{2}$	81		
	23 33 52	19 $0\frac{1}{4}$	24 10 54	8 20	30,0	80	78		
	14 30 48	27 $28\frac{1}{3}$	24 56 53	9 7	30,0	79	78	6	
♂ —— 7	Noon	76 15		9 $14\frac{7}{8}$	30,0	$80\frac{1}{2}$	80	6	
	15 20 41	38 $18\frac{3}{8}$	26 19 49	10 20	30,0	78	77		
☿ —— 8	Noon	77 $23\frac{1}{2}$		10 $28\frac{1}{12}$	29,8	79	$79\frac{1}{2}$	3	
	14 2 43	19 $59\frac{7}{8}$	27 27 36	11 37	29,9	77	77		
♃ —— 9	Noon	78 41		11 $51\frac{1}{2}$	29,95	79	$79\frac{1}{2}$	6	
	14 1 51	19 $22\frac{1}{3}$	28 43 22	13 3	29,95	77	76		
♀ —— 10	Noon	80 2		13 $18\frac{1}{4}$	30,05	$77\frac{1}{2}$	$77\frac{1}{2}$	6	
	13 27 55	11 $13\frac{9}{10}$	29 56 18	14 $23\frac{1}{2}$	29,85	77	74		
♄ —— 11	Noon	81 $22\frac{1}{2}$		14 42	30,0	$76\frac{1}{2}$	$76\frac{1}{2}$	6	
	14 6 57	19 $38\frac{1}{8}$	31 13 57	16 3	30,0	76	74		
☉ —— 12	Noon	83 0		16 $23\frac{1}{2}$	30 0	76	76	3	
	0 47 49	10 $56\frac{1}{8}$	31 45 6	16 48	30,0	76	74		
☽ —— 13	Noon	84 $17\frac{1}{2}$		17 $44\frac{1}{2}$	30,0	$76\frac{1}{2}$	75	3	
	23 52 51	24 $8\frac{7}{8}$	32 27 18	18 0	30,0	76	$74\frac{1}{2}$		
	14 14 29	21 $21\frac{7}{8}$	32 39 47	18 58	30,0	$75\frac{1}{2}$	74	6	
♂ —— 14	Noon	85 $43\frac{1}{2}$		19 $13\frac{1}{2}$	29 95	$76\frac{1}{2}$	77	6	
	0 37 $15\frac{1}{3}$	14 $47\frac{1}{12}$	32 44 42	19 $29\frac{1}{2}$	30,05	76	75		
	13 40 29	15 $15\frac{1}{5}$	33 4 41	20 24	30,1	76	75	6	
☿ —— 15	Noon	87 $16\frac{3}{4}$		20 $49\frac{1}{3}$	30,05	76	76	6	
	0 17 31	10 $0\frac{1}{5}$	33 18 14	21 10	30,0	76	75		
♃ —— 16	Noon	88 47		22 $21\frac{9}{10}$	30,15	77	$77\frac{1}{2}$	6	
	23 30 $42\frac{1}{2}$	31 $17\frac{9}{10}$	34 3 2	22 35	30,15	76	76		
	13 29 22	11 $48\frac{1}{4}$	34 40 52	23 $28\frac{1}{2}$	30,15	$76\frac{1}{2}$	76	6	
♀ —— 17	Noon	89 28		23 $45\frac{1}{3}$	30,2	$78\frac{1}{2}$	79	6	
	0 18 56	21 $33\frac{1}{5}$	34 51 57	23 58	30,2	78	$78\frac{1}{2}$		
	13 44 57	15 $24\frac{1}{3}$	35 6 30	24 48	30,25	$77\frac{1}{2}$	76	6	
♄ —— 18	Noon	88 5		25 $9\frac{1}{2}$	30 25	78	$77\frac{1}{2}$	6	
	0 56 $46\frac{1}{2}$	14 $0\frac{1}{5}$	35 14 29	25 27	30,2		77		
☉ —— 19	Noon	86 $41\frac{1}{5}$		26 $33\frac{1}{3}$	30,2	77	$77\frac{1}{2}$	6	

1774.	Time by No. 1. (H ' ")	Altitude of the ☾'s L. L. (° ')	Longitude West of Greenwich. (° ' ")	Latitude of the Ship North. (° ')	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
☉ June 19.	0 19 22	22 $18\frac{1}{8}$	35 16 37	26 52	30,2	77	75	6	
	13 52 4	18 $10\frac{1}{4}$	35 7 35	27 42	30,2	$76\frac{1}{2}$	$75\frac{1}{2}$	6	
☽ —— 20.	Noon.	85 16		28 $0\frac{1}{10}$	30,3	77	$76\frac{1}{2}$		
	13 46 43	17 38	35 6 12	28 58	30,3	77	$74\frac{1}{2}$	6	
♂ —— 21.	Noon.	83 59		29 $17\frac{1}{4}$	30,25	79	77		
	14 3 53	21 $37\frac{1}{4}$	35 23 12	30 34	30,3	78	75	6	
☿ —— 22.	Noon.	82 21		30 55	30,3	76	75		
	13 19 31	13 $7\frac{1}{2}$	35 31 36	32 13	30,3	76	75	6	
♃ —— 23.	Noon.	80 36		32 $39\frac{3}{4}$	30,3	76	74		
	1 19 $26\frac{1}{3}$	11 $28\frac{1}{2}$	35 41 19	33 2	30,2	76	$74\frac{1}{2}$	6	
	14 0 5	21 $28\frac{1}{3}$	36 6 45	34 2	30,35	76	$72\frac{1}{2}$	6	
♀ —— 24.	Noon.	78 $50\frac{1}{4}$		34 $23\frac{1}{4}$	30,45	74	$73\frac{1}{2}$		
♄ —— 25.	Noon.	77 $16\frac{1}{2}$		35 $56\frac{1}{2}$	30,45	74	$73\frac{1}{2}$		
☉ —— 26.	Noon.	76 0		37 50	30,35	$73\frac{1}{2}$	72		
	23 7 31	38 $8\frac{1}{2}$	35 50 6	37 22	30,25	74	72	6	
	14 21 $1\frac{1}{3}$	27 $26\frac{2}{3}$	35 15 57	37 33	30,3	73	71	6	
☽ —— 27.	Noon.	75 23		37 $45\frac{1}{3}$	30,3	74	73		
	13 49 $0\frac{1}{2}$	22 $0\frac{2}{3}$	34 22 5	37 $51\frac{1}{2}$	30,1		71	6	
♂ —— 28.	Noon.	75 $12\frac{2}{3}$		37 $53\frac{1}{12}$	30,4	73	76		
	12 51 31	12 $6\frac{1}{2}$	33 45 34	38 31	30,2		72	6	
	13 10 23	15 $36\frac{1}{2}$	33 44 54	38 31	30,2		72	6	
☿ —— 29.	Noon.	74 $22\frac{1}{2}$		38 $40\frac{1}{2}$	30,35	75	$74\frac{1}{2}$		
	14 13 2	28 $26\frac{1}{8}$	32 43 41	39 $3\frac{1}{2}$	30,4		73	6	
	14 43 44	34 $22\frac{1}{3}$	32 45 36	39 4	30,4		73	5	
♃ —— 30.	Noon.	73 $46\frac{1}{6}$		39 13	30,4	$74\frac{1}{2}$	76		
	16 15 $56\frac{1}{2}$	53 $26\frac{5}{6}$	30 57 20	39 57	30,4	75	73	6	
♀ July 1.	Noon.	72 49		40 $6\frac{1}{2}$	30,3	$73\frac{1}{2}$	$74\frac{1}{2}$		
♄ —— 2.	Noon.	72 $11\frac{1}{2}$:		40 $50\frac{7}{8}$	30,15	72	66		Hazy.
	23 45 $2\frac{1}{3}$	24 $47\frac{1}{2}$	29 7 37	41 0	30,15	73	71	6	
☉ —— 3.	Noon.	71 $13\frac{1}{2}$		41 $32\frac{3}{4}$	30,1	72	$70\frac{1}{2}$		
	23 50 4	22 $25\frac{1}{6}$	27 4 24	41 51	30,05	73	$71\frac{1}{2}$	6	
	13 54 50	31 $18\frac{1}{2}$	25 32 33	42 33	30,15	72	70	6	
☽ —— 4.	Noon.	69 57		42 44	30,1	72	72		
	15 2 $12\frac{1}{2}$	45 $21\frac{1}{10}$	23 1 54	43 48	30,0	72	71	6	
	16 55 19	63 18							☉ S. S. E. at the first Observation. Ship's course E. N. E. ½ E. at the rate of 6 miles an hour.
♂ —— 5.	18 20 0	68 32		44 1					
	12 55 $25\frac{2}{3}$	24 $43\frac{1}{2}$	20 32 17	45 22	29,8	71	67	6	
	16 51 0	62 $50\frac{3}{4}$		45 $45\frac{1}{3}$					☉ S. S. E. at the first Observation, and S. by W. at the second. Ship's course E. N. E. ½ N. at the rate of 7 miles an hour.
☿ —— 6.	18 28 0	66 2		45 $46\frac{1}{2}$					
	20 11 11	54 42							
	13 35 23	34 $9\frac{1}{2}$	17 5 3	46 55	29,85	66	56	6	
♃ —— 7.	Noon.	65 $13\frac{1}{2}$		47 $9\frac{7}{8}$	29,85	63	59		
	13 5 $37\frac{1}{2}$	31 $15\frac{1}{3}$	14 0 30	47 56	29,95	69	$57\frac{1}{2}$	6	
♀ —— 8.	Noon.	64 $11\frac{1}{2}$		48 $5\frac{1}{3}$	29,9	$62\frac{1}{2}$	58		
	13 27 57	35 $7\frac{1}{6}$	10 41 47	49 0	29,9	59	57	6	

1774.	Time by No 1	Altitude of the ☉'s L L	Longitude West of Greenwich	Latitude of the Ship North	Barometer	Therm. C	Therm. D	No. of Obs.	Remarks
	H ′ ″	° ′	° ′ ″	° ′					
♄ July 9	Noon	63 0½		49 9½	29,95	62	57		
	22 53 1	20 3	9 13 55	49 14	29,9	63	57	4	
	13 25 49	39 2½	7 10 2	49 19	30,0	62	56½	6	
	16 2 20	60 0							O S at the first Observation Ship's course E S E ½ E at the rate of 6 miles an hour
☉ —— 10	17 11 10	62 39		49 21¾					
	12 21 34½	30 27½	4 27 35	49 26	30,05	61	57	6	
☽ —— 11	Noon	62 27	East	49 27½				—	
♂ —— 12	22 3 52	20 59½	0 33 16½	49 38				6	
	12 55 1	40 19	2 33 13	49 58				6	
♃ —— 14	11 23 42½	28 0¾	5 54 33	50 45½	30,2	57½	56	6	On board the ship at Spithead
♀ —— 15	11 14 29	26 38¾	5 59 46½		30,18	59	57	6	
☉ —— 17	11 14 15½	26 48½	6 12 37		30,22	57	54	6	
☽ —— 18	11 32 48	29 47½	6 16 53		30,24	56½	55½	5	

According to the rate this Watch was going at when at Greenwich, before we left England, and the time it was set to at Drake's Island, in Plymouth Sound, July the 10th, 1772, it ought to have been too fast, for mean time at that place, when the Observation of July the 15th, 1774, was taken, by 9′ 35″,6. Mr Bayley then found it too slow for mean time, at Spithead, by 7 h 56′ 11″,74; the Watch, therefore, places Spithead 8 h 5′ 47″,34,=121° 26′ 50″ to the East of Plymouth Sound; but as it is only 3° 9′ 15″ to the East of it, the difference, 118° 17′ 35″, is the Watch's error in the course of the whole voyage; that is, in two years and five days.

Mr Bayley went round with the Watch, in the ship, into the river; and July 27th delivered it at the Royal Observatory at Greenwich, when he found that at 8 h 55′ by the Watch, the transit Clock shewed 13 h 32′ 24″: the Sun's transit, that day, was at 8 h 23′ 53″,86 by the Clock; from whence it appears that the mean time of comparing the Watch was 5 h 13′ 41″,6; and of course the Watch was too fast for mean time at Greenwich, by 3 h 41′ 18″,5. This Watch gained at the rate of 0″,8 a day on mean time from April 13 to April 25, 1772, before it went on the voyage, and it lost at the rate of 1′ 21″,89 a day, on mean time, from July 21 to the 27th, 1774, after its return.

I think the titles at the tops of the several columns will sufficiently explain themselves; but it may be necessary to remark, that the Thermometer marked C was kept in the cabbin, close to the Watches, and that marked D was in the open air, upon deck, but kept shaded from the sun.

OBSERVATIONS

OF THE

MOON'S Diſtance from the SUN and Fixed STARS, for determining the LONGITUDE at Sea,

Made on Board his MAJESTY'S Sloop ADVENTURE, in her late Voyage on Diſcoveries towards the South.

By Mr. WILLIAM BAYLEY.

1772	Time by No. 1 H ′ ″	Distance ☽ and ☉ or ✱ ° ′ ″	Altitude of the ☉ or ✱	Moon's Altitude	Longitude West of Greenwich	Latitude of the Ship N	No. Obs.	Thermom	Objects
♂ July 21		94 37 40	52 46½	25 12 U	9 49½	43 36	2		☽ and ☉
☿ — 22		83 58 0	40 52	46 40½ U	11 9	42 27	1		☽ and ☉
♃ — 23		73 24 12	13 15½	62 12½ L	11 34½	40 34	6	69	☽ and ☉
♂ Aug 4	4 42 54	72 54 30	37 51½	49 23¼ U	18 28	28 29	4	73	☽ and ☉
	6 50 28	73 35 56	10 10½	47 10¼ L	17 50½	28 25	4	73	☽ and ☉
	9 47 6	38 49 10	31 14½	19 15 L	17 53	28 20	3	72	☽ and Antares
☿ — 5	5 22 41	86 27 27	29 18⅓	45 28⅓ U	18 55½	27 31⅙	5	73	☽ and ☉
	5 52 53	86 36 0	22 38⅙	47 27⅔ U	18 41¼	27 31⅙	4	73	☽ and ☉
☽ — 10	8 32 41	43 56 7½	46 19	37 18 U	22 21½	17 24	2	78	☽ and Antares
	9 11 21		43 41				2	78	Arcturus
♂ — 18	18 24 44	34 58 0	71 40	22 27 U	20 49½	10 54	1	76	☽ and Aldebaran
	19 53 24½	114 6 25	13 19	50 55½ U	20 57¼	10 47	3	76	☽ and ☉
♂ Sept 1	3 26 42	55 5 15 ‡	38 21½	76 14	5 53½	1 55	4	78	☽ and ☉
♃ — 3	7 14 54	56 54 20 ‡	63 12⅓	58 35½ L	8 49½	0 55	3	75½	☽ and α Aquilæ
♀ — 4	3 0 58	94 57 27 ‡	47 44⅙	36 10½ U	9 35	0 49	6	77	☽ and ☉
♄ — 5	3 22 26	107 11 15 ‡	42 39½	28 48 U	9 40 9/10	0 55	3	76½	☽ and ☉
	5 41 22	107 53 25 †	7 59	58 23½ U	9 51½	0 55	3	76	☽ and ☉
☉ — 6	4 55 35	119 52 15 ‡	18 12½	39 18½ U	9 17	0 31 South	4	76	☽ and ☉
♀ — 11	10 19 57	54 59 0 †	61 51	59 45½ L	12 39½	3 30	3	72	☽ and α Aquilæ
	11 20 48	44 38 20 †	31 1½	74 37 L	12 21	3 30	3	70	☽ and α Arietis
♃ — 17	20 43 9	110 27 54 ‡	28 29½	40 25½ U	17 33½	12 11	5	73½	☽ and ☉
♄ — 19	19 52 29	87 32 48 ‡	14 54	53 17 U	19 7 1/10	15 19	6		☽ and ☉
☽ — 21	20 5 43	62 36 50 †	27 48½	55 42½ U	20 32	18 25½	3		☽ and ☉
	23 19 38	61 51 0 †	60 7½	39 46½ U	20 32¼	18 36	3		☽ and ☉
♂ — 22	23 22 51	48 45 52 †	59 50½	49 18⅞ U	21 28	20 1	5	73	☽ and ☉
☿ — 23	21 37 48	35 47 9 †	37 7⅞	56 17½ U	21 58¼	21 20	4	72½	☽ and ☉
♂ — 29	4 20 35	37 5 5 ‡	34 48½	70 35½ L	21 40	20 14	3		☽ and ☉
♃ Oct 1	3 45 43½	64 10 31 ‡	38 29	72 16 U	18 9¼	27 27	5	69	☽ and ☉
	4 17 59	64 20 26 ‡	31 35½	77 58½ U	17 59¼	27 26	6	69	☽ and ☉
♀ — 2	4 29 51	77 21 3 ‡	28 3⅞	70 56 U	17 18	27 38	4	69	☽ and ☉
♄ — 3	5 12 28	90 5 22 ‡	17 16	69 23 U	15 41½	28 9	3	63	☽ and ☉
☉ — 4	5 45 14½	102 18 27	7 59	66 33½ U	13 45½	29 7	3	58	☽ and ☉
☽ — 5	2 58 5	113 8 57 ‡	42 44½	21 47½ U	11 2¾	28 56	6	59	☽ and ☉
	3 29 34	113 22 10 ‡	36 8	28 26 U	12 0¼	28 53	3	59	☽ and ☉
	3 58 30½	113 33 32 ‡	30 2½	34 34½ U	12 16	28 52	3	59	☽ and ☉
♄ — 10	7 50 38	72 24 35 †	42 26½	27 15 L	7 39½	34 36	3	57	☽ and α Aquilæ
	10 12 25	73 5 0 †	20 57½	46 54½ L	7 30¾	34 41	3	57	☽ and α Aquilæ

1772	Time by No 1	Distance ☽ L from ☉'s or *	Altitude of the ☉'s L L or *	Moon's Altitude	Longitude W of Greenwich	Latitude of the Ship S	No. Obs	[illegible]	Objects
	H ′ ″	° ′ ″		° ′					
☉ Oct 11	6 59 50	Apparent time, end of the Lunar Eclipse				By W Bayley			
	7 0 26					By Capt Furneaux			
	9 45 37	83 50 18 ‡	24 $18\frac{3}{4}$	36 $21\frac{3}{4}$ L	6 5	34 46	4	57	☽ and Aquilæ
	10 57 12	44 15 35 ‡	13 34	43 $54\frac{1}{3}$ L	6 $17\frac{3}{4}$	34 46	3	57	☽ and Aldebaran
☽ — 12	10 42 31	32 23 8 †	12 $10\frac{1}{4}$	35 $21\frac{3}{4}$ L	6 $40\frac{1}{4}$	34 53	4	57	☽ and Aldebaran
					East				
♀ — 16	18 33 $35\frac{1}{4}$	118 29 55 †	23 $52\frac{1}{2}$	8 0 U	4 $11\frac{1}{3}$	35 1	3	57	☽ and ☉
☽ — 19	14 55 54	56 19 49 ‡	35 $7\frac{1}{4}$	28 $36\frac{1}{4}$ L	7 $58\frac{1}{5}$	34 32	4		☽ and Aldebaran
	18 43 54	82 37 0 †	31 24	37 15 U	8 $2\frac{1}{4}$	34 38	3		☽ and ☉
	18 57 59	82 31 15 †	33 20	36 $1\frac{1}{2}$ U	7 56	34 38	5	59	☽ and ☉
	20 8 7	82 6 30 †	47 $8\frac{1}{2}$	27 41 U	8 $51\frac{9}{10}$	34 38	4		☽ and ☉
♂ — 20	17 26 $57\frac{1}{2}$	70 16 54 †	15 6	41 $32\frac{1}{2}$ L	8 36	35 14	6	55	☽ and ☉
☽ Nov 30	2 30 55	73 54 32 ‡	29 5	56 $32\frac{1}{2}$ L	17 $43\frac{1}{4}$	42 32	3	52	☽ and ☉
♃ Dec 3	3 35 37	107 56 42	17 51	39 $1\frac{1}{4}$ U	18 35	44 46	4	46	☽ and ☉
♀ — 4	2 21 42	118 26 24 ‡	31 2	21 $25\frac{4}{5}$ U	17 57	45 55	5	42	☽ and ☉
♃ — 17	15 23 31	81 53 30 †	18 $3\frac{1}{2}$	36 20 L	24 52	55 5	3	$30\frac{1}{2}$	☽ and ☉
	15 43 52	81 45 1 †	20 58	36 48 L	24 46	55 5	6	30	☽ and ☉
	16 8 24	81 35 30 †	24 $23\frac{1}{4}$	37 25 U	24 $59\frac{3}{4}$	55 5	4	30	☽ and ☉
1773									
♄ Jan 2	3 52 $12\frac{1}{4}$	109 10 2	13 21	6 $51\frac{1}{4}$ U	9 59	59 0	4	$31\frac{1}{2}$	☽ and ☉
	4 59 $1\frac{1}{4}$	109 32 30	15 1	19 $14\frac{1}{2}$ U	10 21	58 56	3	31	☽ and ☉
	5 12 $38\frac{1}{2}$	109 37 53	13 25	19 27 U	9 $52\frac{2}{3}$	58 55	[illegible]	31	☽ and ☉
☿ — 13	16 31 47	112 14 21 ‡	31 58	15 $43\frac{1}{3}$ U	39 45	64 3	4	$32\frac{1}{2}$	☽ and ☉
	17 20 $13\frac{1}{4}$	111 49 7 †	36 $43\frac{1}{4}$	11 17 U	39 36	64 1	4	$32\frac{1}{2}$	☽ and ☉
	17 34 38	111 41 30 †	38 $5\frac{1}{4}$	9 53 U	39 $40\frac{1}{4}$	64 1	6	32	☽ and ☉
♃ — 14	17 22 $0\frac{1}{4}$	98 4[illegible] 31 †	37 $13\frac{1}{3}$	20 9 U	40 $3\frac{1}{4}$	63 36	4	34	☽ and ☉
	17 35 58	98 37 29 †	38 $27\frac{1}{2}$	18 54 U	39 32	63 36	5	34	☽ and ☉
	17 49 46	98 31 40 †	39 48	17 31 U	39 $31\frac{1}{4}$	63 36	3		☽ and ☉
	22 20 54	53 23 37 ‡	41 23	31 10 U	51 $58\frac{1}{4}$	56 20	2	33	☽ and ☉
♃ Feb 4	4 59 52	34 56 36 ‡	13 56	21 34 L	60 $23\frac{2}{3}$		4	42	☽ and Aldebaran
♄ — 6	4 57 51	61 57 22 ‡	14 18	24 $33\frac{1}{3}$ L	62 $29\frac{1}{4}$	48 20	4	43	☽ and Aldebaran
♀ — 12	12 11 48	105 33 14 ‡	9 $20\frac{1}{2}$	48 $14\frac{1}{2}$ U	71 $34\frac{1}{4}$	51 0	6	38	☽ and ☉
	14 43 25	104 31 36 †	32 58	10 $41\frac{3}{4}$ U	71 51	51 1	4	48	☽ and ☉
♄ — 1	16 18 59	90 34 25 ‡	46 7	24 42 U	76 $14\frac{1}{5}$	51 37	1		☽ and ☉
	16 3[illegible] 17	90 24 26 ‡	17 $50\frac{1}{4}$	21 $41\frac{1}{3}$ U	76 $18\frac{1}{5}$	51 37	4	38	☽ and ☉
☿ — 17	15 3 28	40 1 23 †	41 46	52 $14\frac{1}{4}$ U	88 15	52 53	2	17	☽ and ☉
☉ — 28	18 9 $8\frac{1}{2}$	74 40 22 ‡	29 $32\frac{1}{4}$	20 $57\frac{1}{4}$ L	122 $37\frac{1}{6}$	50 15	2		☽ and ☉
	18 34 6	74 47 57 ‡	26 5	22 8 L	122 $29\frac{1}{2}$	50 15	5	54	☽ and ☉
♃ March 4	19 15 45	120 14 2 †	11 $21\frac{1}{4}$	17 $5\frac{1}{2}$ L	134 29	44 32	4	51	☽ and ☉

1773	Time by No 1 H ′ ″	Distance ☽'s L from ☉ or ✱ ° ′ ″	Altitude of the ☉'s L L or ✱	Moon's Altitude ° ′	Longitude East of Greenwich ° ′	Latitude of the Ship S ° ′	No of Obs	Thermom	Objects
♃ March 4	21 19 49	38 49 8 †	23 36⅒	26 32⅓ L	134 33⅕	44 20	3	51	☽ and Aldebaran
	0 12 50½	40 17 2 †	32 13¼	20 52⅓ L	134 57½	44 18	4	50	☽ and Regulus
☉ —— 7	21 12 22	37 37 18 ǀ	17 27¼	24 9¼ L	142 40¼	43 46	4	54	☽ and Pollux
♂ —— 9	5 11 41	20 34 18 †	44 53¼	25 48 L	146 47¼	43 44	4	52	☽ and Spica ♍
☿ —— 10	21 7 9½	44 31 04 ‡	24 8	11 36⅔ L	147 33$\frac{9}{10}$	43 22	8	53	☽ and Regulus
☉ —— 14	11 41 18½	97 24 45 ‡	45 25⅚	18 49¼ U	148 2$\frac{1}{10}$	43 23	3	56	☽ and ☉
☽ —— 15	7 48 18	86 3 13 †	11 42⅒	62 52⅙ U	148 37⅞	43 33	6	53	☽ and ☉
	9 33 55½	85 27 7 †	29 45	49 44¼ U	148 42½	43 30	4	54	☽ and ☉
♂ —— 16	9 26 46	72 49 0 †	29 7⅛	58 45½ U	148 26⅙	42 4	6	53	☽ and ☉
☿ —— 17	9 27 22	60 25 18 †	29 42$\frac{1}{10}$	63 35$\frac{1}{10}$ U	148 26$\frac{7}{10}$	40 41	5	54	☽ and ☉
☉ —— 28	14 38 11	53 34 30 ‡	31 33¼	31 55¼ U	161 35⅓	40 18	4	61	☽ and ☉
	15 26 9¼	53 48 39 ‡	23 47¼	32 43 U	161 39⅞	40 18	6	61	☽ and ☉
	18 42 16¼	48 8 9 †	21 12½	16 8$\frac{9}{10}$ U	161 56	40 24	5	62	☽ and Pollux
☽ —— 29	14 59 20	64 40 29 ‡	36 35¼	29 19¼ U	163 29½	40 42	4	62	☽ and ☉
	15 36 15	64 50 15 ‡	20 20	30 42 U	163 50½	40 42	2	62	☽ and ☉
	15 52 52	64 55 16 ‡	17 21⅕	30 56½ U	163 27	40 42	3	63	☽ and ☉
♂ —— 30	15 2 37	75 49 11 ‡	24 4	25 57¼ U	165 27¾	41 17	4	64	☽ and ☉
	15 31 1½	75 58 0 ‡	19 11⅓	27 55 U	165 3⅒	41 17	2	64	☽ and ☉
	16 14 10	76 10 2 †	11 47¼	29 35¼ U	165 10⅓	41 17	4	63	☽ and ☉
♄ April 3	16 16 39	123 42 15	4 31¼	21 38 U		40 30	4	63	☽ and ☉, back Obs
	17 44 25	71 13 30 †	18 5⅕	31 54⅕ L	172 25$\frac{1}{10}$	40 28	4	60	☽ and Aldebaran
	21 10 12	60 40 10 ǀ	48 15	33 15½ L	172 45$\frac{9}{10}$	40 26	2	59	☽ and Spica ♍
☉ —— 4	15 43 3	136 25 10	9 30½	11 38⅒ U		41 21	6	63	☽ and ☉ by the back Obs
	15 51 56	136 29 53	7 49	13 10⅒ U		41 21	5	63	
	16 0 50	136 33 45	6 17⅒	14 39⅘ U		41 21	5	63	
	18 4 51	47 50 41 ‡	16 21⅓	32 40⅒ L	174 9	40 25	5	63	☽ and Spica ♍
	18 31 56	43 48 4 ‡	19 43⅒	35 40⅒ L	173 52¼	40 25	5	61	☽ and Pollux
☿ June 9	6 32 58	115 20 36 †	8 0⅕	26 55½ U	179 13⅓	43 50	6	53	☽ and ☉
	8 12 41	114 34 30 †	18 33	9 24⅒ U	179 7⅜		1	54	☽ and ☉
♄ —— 12	7 27 6	79 59 58 †	14 15⅙	26 30⅕ U	183 57¾	46 17	6	51	☽ and ☉
	8 11 11	79 44 48 †	17 38⅒	19 58⅒ U	184 23$\frac{1}{10}$	46 18	5	61½	☽ and ☉
♄ —— 26	8 57 56⅕	67 58 52 †	23 16	13 42 U	196 37⅓	43 5¼	3	48	☽ and ☉
	10 49 57	107 35 15 ‡	16 57¼	17 30¼ U	199 2⅙	42 52	4	52	☽ and ☉
♀ July 2	14 10 26	51 2 6 †	56 6	32 30⅓ U	203 42¼	43 1	3	48	☽ and Spica ♍

1773	Time by No. 1 H ′ ″	Distance ☽'s L. from ☉'s ☉ * ′ ″	Altitude of the ☉'s L. L. or *	Moon's Altitude	Longitude W. of Greenwich	Latitude of the Ship S.	[illegible]	Thermom.	[illegible]
☽ July 5	17 18 55½	51 57 52 ‡	72 58¼	36 26 L	07 5	42 55	2	46	☽ and Antares
☿ —— 7	18 18 3	79 45 52 ‡	67 44½	25 38½ L	210 18	11 51	[illegible]	49	☽ and Antares
♀ —— 9	4 0 42	111 26 8 ‡	8 45½	20 37 U	215 28	13 28	2	55	☽ and
	4 34 39	111 14 58 †	13 7	14 35½ U	214 55	4[illegible] 28	3	55	☽ and
♄ —— 10	4 11 45	99 59 24 †	11 25½	21 21½ U	217 8	13 32	6	46	☽ and
☉ —— 11	3 56 33	88 56 41 †	10 51½	25 56 U	218 48	43 16	7	47½	☽ and
	5 49 38	88 15 22 †	21 58	8 16½ U	219 17		4	48	☽ and
☽ —— 12	3 24 43	78 6 18 †	7 26½	30 52½ U	220 5	40 0	6	50	☽ and
	4 23 57½	77 49 42 †	15 5	24 38⅙ U	220 11		6	56	☽ and
☉ —— 25	9 51 36	64 49 35	23 36½	57 39½ U	224 7		6	66	☽ and
☽ —— 26	9 39 4	77 53 12 ‡	25 49½	53 16½ U	225 16	29 13	6	66½	☽ and
	9 49 5½	77 56 40 ‡	24 13½	55 9½ U	225 14½		3	66½	☽ and ☉
	10 28 50	73 10 35 ‡	17 22½	61 39 U	225 10½		3	66½	☽ and ☉
♂ —— 27	8 25 54	90 39 0 ‡	36 20½	30 2½ U	225 24½	27 51	6	67	☽ and ☉
	10 58 46½	91 29 5 ‡	12 5	61 40½ U	225 12½		2	67	☽ and ☉
	13 11 31½	17 7 0 †	60 8	71 19 L.	225 13½		3	65	☽ and Spica ♍
	13 34 52½	81 1 13 †	17 22½	68 39½ L	225 5¼		3	65	☽ and Aquila
☿ —— 28	9 59 38	104 41 40	23 21½	39 16⅝ U	224 28¼	27 42	6	67½	☽ and ☉
♃ —— 29	10 26 16	118 19 22 ‡	19 14½	33 37¼ U	223 54	27 20	7	68	☽ and ☉
♀ —— 30	10 23 17	131 43 7 ‡	19 11½	22 10½ U	225 11½	26 58	4	69	☽ and ☉ back ☉ l.
♄ —— 31	10 56 45½	145 18 27 ‡	12 58½	17 17½ U	225 25⅝		8	67½	☽ and ☉ ditto
☽ Aug 2	16 36 9	59 13 5 ‡	54 18¾	66 9½ L	226 58⅝		4	65	☽ and Antares
♂ —— 3	16 37 21½	73 27 35 ‡	52 24	54 21½ L	227 13½		4	67	☽ and Antares
☿ —— 4	1 18 59	155 13 7 ‡	5 41¾	10 31⅞ L	227 40½	20 49	8	76	☽ and ☉ back ☉ l.
☉ —— 8	3 30 40½	108 19 24 †	31 52½	20 57⅝ U	222 53	17 44	6	75¼	☽ and ☉
☽ —— 9	3 31 57	97 17 21 †	30 57	30 40 U	220 52	17 24	7	75¼	☽ and ☉
	4 20 43	97 0 52 †	40 18½	20 15 U	220 54	17 24	6	77	☽ and ☉
☿ —— 11	2 59 17	75 23 30 †	21 43¾	51 28¼ U	216 30		4	78	☽ and ☉
	3 8 21	75 21 51 †	23 38½	50 20½ U	216 35		5	78	☽ and ☉
♃ —— 12	2 26 19½	64 24 38 †	13 38	4 11 L	215 29½		3	79	☽ and ☉
♀ —— 13	2 48 20½	53 0 24	17 26½	52 18¾ L	213 19½	17 17	9	79½	☽ and ☉
	3 44 58	5 47 13	29 31	53 28 L	213 13½	17 17	9	80	☽ and ☉
♄ —— 14	2 5 26	41 34 21	10 5½	43 24½ L	211 46	17 41	6	79	☽ and ☉
☿ —— [illegible]	11 6 13	89 30 25	25 53½	62 42½ U	210 38½	17 27	8		☽ and ☉
♂ Sept 7	2 8 43	104 47 4	12 38½	43 29 U	208 35¾	I Observation by four [illegible] ll as Lat 16 45½ S	10	77½	☽ and ☉
☿ —— 8	3 14 37	94 23 59 ‡		33 1½ U	208 42		6	78	☽ and ☉
♃ —— 9	3 7 6	83 29 54 ‡	27 29½	46 49¼ U	208 33⅞		6	79	☽ and ☉
——	1 0 1	60 26 57 ‡	40 20	52 48½ U	208 38½		6	76	☽ and ☉

1773.	Time by No. 1. H ′ ″	Distance ☽'s L. from ☉'s or ✱. ° ′ ″	Altitude of the ☉'s L. L. or ✱. ° ′	Moon's Altitude. ° ′	Longitude East of Greenwich. ° ′	Latitude of the Ship S. ° ′	No. of Obs.	Thermom.	Objects.
♂ —— 21.	9 4 44	58 53 11 ‡	56 7 1/5	61 39 U.	204 18	18 25	6	76	☽ and ☉.
	12 10 36	56 53 26 ‡	14 13¼	74 35 U.	204 21½	18 26	4	76½	☽ and ☉.
♀ —— 24.	10 25 20½	99 31 48 ‡	42 2 9/10	37 30 U.	199 40		6	74½	☽ and ☉.
	10 37 55	99 34 51 ‡	39 17 2/5	40 21 1/5 U.	199 38½		5	72½	☽ and ☉.
♄ —— 25.	9 45 53½	112 0 10	52 5 1/5	14 25 1/5 U.	197 24 1/10	19 55 2/5	5	74	☽ and ☉.
☽ Oct. 4.	3 37 39	135 18 54 ‡		14 30 1/5 U	184 51¼	At Tongataboo. Lat. 21° 4′½.	7	66½	☽ and ☉.
☿ —— 6.	5 25 20	112 53 41 ‡		9 52 1/5 U.	185 14¼		10	69½	☽ and ☉.
♃ —— 7.	3 14 15	102 42 37	16 42	41 29 1/6 U.	185 5¼	21 57½	6	71½	☽ and ☉.
♀ —— 8.	5 51 17	90 39 15 †	53 8¾	23 3¾ U.	185 20		4	70½	☽ and ☉.
♄ —— 9.	3 9 16	79 57 51	16 6 1/10	50 46 4/5 U.	184 26 2/5	22 37	10	69½	☽ and ☉.
	5 22 46	79 21 3	46 29½	37 56 1/5 U.	184 46	22 40	6	70	☽ and ☉.
☉ —— 10.	5 35 42	67 28 18 †	48 10 4/5	45 0 U.	183 7¼		10	67½	☽ and ☉.
☽ —— 11.	3 43 21½	55 46 34 ‡	22 23 1/6	50 16 1/6 U.	182 2¾		6	67½	☽ and ☉.
	6 2 30	55 4 22 †	52 55¾	49 27 3/5 U.	181 45 1/5		6	63	☽ and ☉.
☿ —— 20.	8 57 51	55 9 33 ‡	60 56 1/6	44 30 4/5 U.	179 39¼	37 47½	6	59½	☽ and ☉.
	11 58 23 1/5	56 19 40 ‡	39 43 4/5	69 52 2/5 U.	179 21	38 0	6	59	☽ and ☉.
♃ —— 21.	10 56 27½	69 30 22	45 30¼	53 49 2/5 U.	178 13 2/5	39 10	6	60	☽ and ☉.
	13 41 34½	70 23 40	14 57 1/5	67 29 2/5 L.	177 59 1/5	39 17	4	59	☽ and ☉.
	At the time of these last Observations, Table-Head in New Zealand bore due North.								
♀ —— 22.	11 33 49 1/5	82 54 40	39 38	48 17 2/5 U.	176 44 9/10	40 30	3	57	☽ and ☉.
	These were taken between Cape Turnagain and Black-Head in New Zealand.								
	12 43 5	83 19 39	26 58 5/6	58 59 U.	176 17 9/10	40 30	6	58	☽ and ☉.
♄ —— 23.	10 53 19½	95 23 10	46 56	29 53 1/5 U.	175 53¼	40 51	6	55½	☽ and ☉.
	13 18 26¼	96 18 44	20 54½	54 16¼ U.	176 6 1/5	40 53 1/5	6	55	☽ and ☉.
☉ —— 24.	11 12 5	107 52 11	43 38 1/6	21° 52 U.	175 33 2/5	41 30	6	60	☽ and ☉.
	13 4 43 2/5	108 37 48	23 34	41 24 1/6 U.	175 22¼	41 32	6	58	☽ and ☉.
♂ Nov. 9.	2 35 55	63 33 36	14 59 5/6	41 14 U.	178 37 1/5	In Tolaga Bay, Lat. 38° 21′½.	6	57½	☽ and ☉.
☿ —— 10.	2 8 2	50 48 22	10 1 9/10	34 12 U.	178 30¼		12	56	☽ and ☉.
♃ —— 18.	12 14 41	51 14 26	33 54 2/5	66 6 5/6 L.	177 59¼	40 02	6	59	☽ and ☉.
♄ —— 20.	14 15 55	78 7 2 †	11 55	59 37 5/6 L.	176 14¼		6	54	☽ and ☉.
☽ —— 22.	12 49 15	102 3 52	28 3¾	42 13 U.	176 8 9/10	40 58	6	56	☽ and ☉.
	Cape Turnagain N. N. W. by Compass distant 7 or 8 leagues.								
	14 14 9	102 30 20	12 27 1/6	51 41 1/5 U.	176 11	40 57	6	56	☽ and ☉.
♂ —— 23.	11 39 10 1/5	113 14 48	41 29 2/5	20 32 1/5 U.	175 51½	40 57	6	61½	☽ and ☉.
☿ Dec. 22.	14 16 47	105 55 28	13 50 1/5	41 38 1/6 U.	174 31 1/5	41 20	6	65	☽ and ☉.
♃ —— 23.	12 43 30 1/5	116 25 53	30 22 1/6	23 48 U.	175 16½	42 29	6	65½	☽ and ☉.
1774.									
♂ Jan. 4.	2 1 4	102 9 18	27 22 2/5	29 38 U.	192 11¼	55 15½	6	49	☽ and ☉.
	2 53 38	101 47 30	34 55	24 49½ U.	192 5	55 17	6	48	☽ and ☉.
♄ —— 8.	2 5 1	63 22 30	33 26 1/6	44 53¼ U.	202 26	57 8½	6	36	☽ and ☉.
☿ —— 19.	6 14 29	82 20 10	41 1½	17 12¼ U.	241 37¼	59 26	6	40	☽ and ☉.
	6 27 37	82 25 30	39 34½	18 13 1/6 U.	241 39	59 27	3	40	☽ and ☉.
	7 29 59	82 48 58	32 10 2/5	21 53 1/6 U.	241 52 1/6	59 28	6	39½	☽ and ☉.
♀ —— 21.	9 51 23 1/5	105 48 38 †	11 26	16 21¼ U.	247 32¼		2	39½	☽ and ☉.

1774	Time by No 1	Distance ☽'s L. from ☉'s or *	Altitude of the ☉'s L. L. or *	Moon's Altitude	Longitude East of Greenwich	Latitude of the Ship S	No. of Obs	Thermom	Objects
	H ′ ″	° ′ ″	° ′	° ′	° ′	° ′			
☉ Jan 30	12 36 17	41 30 37	21 43½	11 51½ L	286 19¾	61 28	4	41½	☽ and Spica ♍
☿ Feb 2	17 46 9	111 40 8	16 55	30 41 U	301 13	60 39	6	41	☽ and ☉
	19 34 28	110 51 58	30 18½	20 49 U	301 49⅗	60 38	6	41½	☽ and ☉
♂ —— 22	1 12 56	125 7 25 †	14 41	8 17 U	349 56	53 14	6	39	☽ and ☉ back Obs
♀ —— 25	3 9 41	70 11 33 ‡	15 46⅓	13 51 L	358 34	53 25	3	38	☽ and Aldebaran
	4 41 9	63 4 38 ‡	15 3	0 55 L	359 0⅗		3	38	☽ and Spica ♍
♄ —— 26	Having completed 360° of Longitude, and of course gained a day, it was here rectified by repeating this								
☿ March 2	12 38 27	118 44 33	8 44	38 29⅗ U	11 42⅙	53 44	3	34	☽ and ☉
	14 20 38	118 0 15	23 30⅝	25 45 U	11 29	53 38	6	34	☽ and ☉
☉ —— 6	17 28 57	63 32 58 ‡	46 2	34 31½ U	13 46¾	48 15	6	40	☽ and ☉
☽ —— 7	18 47 18	62 54 28 ‡	45 6⅝	22 2 U	13 58½	48 15	6	40	☽ and ☉
	12 55 47½	52 5 50	13 24	53 7½ L	13 56⅗	47 53	6	38	☽ and ☉
♂ —— 15	22 26 0	37 30 58 †	15 42½	13 35 L	1/ 10½		4	69½	☽ and ☉
	0 45 0½	32 49 16 ├	28 20	10 0½ L	16 39		6	68	☽ and Aldebaran
☿ —— 16	19 55 52½	48 12 26	43 36	41 33½ U	16 56	34 35	6	68½	☽ and ☉
♃ —— 17	20 49 32	59 37 50	33 5	39 54 U	17 59½	The Table Mountain E by S 6 leagues.			☽ and ☉
	22 11 10	59 59 14	16 54½	38 56 U	17 48⅓	34 10	6	70	☽ and ☉
♀ —— 18	21 52 56½	70 54 59	20 0	38 46 U	18 22	In the Mouth of Table Bay			☽ and ☉
☿ April 20	20 27 25	106 29 56	22 16	18 50⅗ U	15 58	32 28	6	64	☽ and ☉
♀ —— 22	23 29 33	36 11 21 †	21 22	38 32⅗ U	13 17	30 0	6	63	☽ and Spica ♍
	23 48 13	54 47 32 ├	28 47	41 39½ U	13 29⅙		6	63	☽ and Pollux
♀ —— 29	13 13 29½	125 32 28 †	17 8	34 35 U	3 28 7/10		6	69½	☽ and ☉ back Obs
	15 7 52	124 36 45 †	39 25⅝	9 22 U	3 45 7/10		6	71½	☽ and ☉
♄ —— 30	12 59 46½	112 4 0½ ‡	14 4	51 9⅗ U	2 51⅙		6	69½	☽ and ☉
	14 23 20½	111 30 5 †	31 17	32 8⅓ U	2 42		5	74	☽ and ☉
☉ May 1	14 39 47	98 6 52	34 13	41 4 U	2 6½	20 30	6	70½	☽ and ☉
	15 36 7	97 37 2	43 59	28 13½ U	1 58	20 29	4	71½	☽ and ☉
☽ —— 2	12 56 46	85 40 34	13 7	76 5 U	1 19 9/10	19 38	6	69½	☽ and ☉
♂ —— 3	12 33 23	73 1 58 ‡	8 8	78 45⅗ L	0 53 West		6	70	☽ and ☉
♃ —— 5	19 25 52	58 17 45 ‡	45 20	8 20 U	0 14		3	71½	☽ and ☉
	16 21 7	47 28 30 †	50 18⅜	60 13⅗ U	1 10		6	72½	☽ and ☉
♀ —— 13	17 53 13	42 55 27 †	62 32⅜	32 54 U	11 58½	7 59	6	75	☽ and ☉
☉ —— 15	20 59 2	54 43 19 ‡	43 19	59 30 U	14 32	6 25	6	81½	☽ and ☉
	23 27 17	66 22 5	11 58	68 8 L	16 4	4 55	2	82½	☽ and ☉

1774.	Time by No. 1. H ′ ″	Distance ☽'s L. from ☉'s or ✱. ° ′ ″	Altitude of the ☉'s L. L. or ✱. ° ′	Moon's Altitude. ° ′	Longitude West of Greenwich. ° ′	Latitude of the Ship S. ° ′	No. of Obs.	Thermom.	Objects.
♂ May 17.	23 24 26	77 40 39	14 13	70 40 U.	17 29½	3 40	6	79½	☽ and ☉.
☿ —— 18.	23 14 36	89 12 18	18 4⅔	63 5⅙ U.	19 19¼	2 21	6	80½	☽ and ☉.
♃ —— 19.	23 20 11	101 5 55	17 58⅔	54 42 U.	20 3⅔	0 43 North.	6	80½	☽ and ☉.
♀ —— 20.	21 10 19	113 17 2	21 1⅙	41 1⅔ U.	20 38¼	0 34	6	80	☽ and ☉.
	1 59 17	26 32 28 †	57 28⅓	82 19 U.	20 34½	0 49	3	78½	☽ and Spica ♍.
♃ —— 26.	6 26 6	39 46 5 ‡	34 37	54 10 L.	24 35¼	6 2	4	76	☽ and α Aquilæ.
	6 38 42	65 13 7 ‡	43 18¼	56 19¾ L.	24 28¼		4	76	☽ and Spica ♍.
♄ —— 28.	10 38 17½	51 27 27	22 35 9/10	65 2⅔ L.	25 20¼	6 34	5	75	☽ and Antares.
	11 5 9	53 43 0	58 0¼	63 16 U.	25 9¼		5	75	☽ and α Pegasi.
	The apparent time of this last Observation was got from the altitudes of Antares.								
♂ —— 31.	14 53 39	89 10 10	33 59¼	56 22⅓ U.	24 56	6 56	4	79	☽ and ☉.
	16 3 51	88 45 37	49 59	40 11⅙ U.	25 3 7/10	6 56	6	80	☽ and ☉.
☿ June 1.	13 31 7	77 14 20	15 30	79 44⅙ L.	25 18½	7 5	6	79½	☽ and ☉.
♃ —— 2.	15 8 24	64 51 40	37 13¼	77 25½ U.	25 45	7 11	4	82	☽ and ☉.
	16 2 23	64 36 20	49 22⅔	65 3⅙ U.	25 54	7 11	6	82	☽ and ☉.
♀ —— 3.	14 44 25	53 16 52 †	31 28	83 36 L.	26 32½	7 36	2	80	☽ and ☉.
☉ —— 12.	21 37 27	37 13 7	54 7	88 5½ U.	34 52½	16 34	4	75	☽ and ☉.
	2 36 31¼	26 21 32 †	47 29⅓	26 2⅔ L.	35 3⅓		6	74½	☽ and Regulus.
☽ —— 13.	0 11 23½	48 59 16 †	19 58⅔	66 57⅙ L.	35 53		6	75	☽ and ☉.
	2 38 1	67 48 45 †	61 36⅓	32 45⅓	35 33⅞		6	74½	☽ and Spica ♍.
♂ —— 14.	0 16 28½	60 20 47	19 20¼	74 8½	36 24⅘	19 29	4	75	☽ and ☉.
	2 44 32½	55 30 11 †	60 17⅗	40 49⅚ L.	36 17½		5	75	☽ and Spica ♍.
☿ —— 15.	21 25 59	71 8 5	58 38⅙	49 45⅓ U.	36 43⅓	21 8⅓	6	75½	☽ and ☉.
♃ —— 16.	23 15 2½	83 31 44	34 42⅔	59 54⅓ U.	37 36 9/10	22 33	5	77	☽ and ☉.
	3 24 6	30 10 7½ †	57 10⅙	56 3⅙ U.	37 35		6	76	☽ and Spica ♍.
♀ —— 17.	22 58 34½	95 38 31 ‡	39 16⅔	43 46⅙ U.	38 39⅚		6	79	☽ and ☉.
	3 12 47	17 3 11 †	15 18⅔	57 37⅔ L.	38 18		6	77	☽ and Spica ♍.
	3 55 21	37 28 40 †	26 20	50 19½ L.	38 21		5	77	☽ and Regulus.
	4 17 48½	62 27 22 †	35 32⅓	45 58⅙ L.	38 33⅔		6	77	☽ and Antares.
♄ —— 18.	0 56 45½	108 54 43	14 0⅔	52 9⅙ U.	39 15⅔	25 27	6	77	☽ and ☉.
	3 45 42	49 11 06 †	31 13⅔	54 49¼ L.	39 21½		5	76	☽ and Antares.

1774	Time by No. 1 H ′ ″	Distance ☽'s L. from ☉'s or ✱	Altitude of the ☉'s L. L. or ✱	Moon's Altitude	Longitude West of Greenwich	Latitude of the Ship S	No of Ob	Thermom	Objects
☉ June 19	22 38 44	120 58 48	41 11	13 46 U	39 18½	26 44	6	77½	☽ and ☉
	5 6 29	34 56 49 †	36 28	45 56½ L	39 10½	27 6	5	75½	☽ and Antares
☽ —— 20	0 24 17	135 11 29	21 21⅓	21 18 U	38 49¾	28 11	6	77	☽ and ☉ back Obs
♂ —— 21	0 55 32	149 13 3	15 1⅓	13 57½ U	39 19	29 40	6	76	☽ and ☉ back Obs
	5 29 35	58 48 48 †	38 8⅝	43 8½ L	39 30		3	74½	☽ and α Aquilæ
	5 48 26	42 6 26 †	28 16⅙	42 49⅓ L	39 35⅘		3	74¾	☽ and Spica ♍
♃ —— 23	5 7 15	72 28 8 †	30 55¼	28 23½ L	40 36⅞		4	74	☽ and Spica ♍
☽ —— 27	13 32 1	119 43 52 †	18 53⅓	32 48 U	40 10¼	37 51½	6	71	☽ and ☉
	13 49 0	119 37 3	22 0⅓	30 15⅓ U	40 17⅜	37 51¼	6	71	☽ and ☉
♂ —— 28	12 51 31	107 12 40	12 6½	44 47⅓ U	39 47¼	38 31	6	72	☽ and ☉
	13 10 27	107 6 33	15 36½	43 26 U	39 50½	38 31	6	72	☽ and ☉
☿ —— 29	14 13 2	94 27 12	28 26⅙	44 59½ U	39 17⅞	39 3½	6	73	☽ and ☉
	14 43 44	94 16 48	34 21½	41 15 U	39 12⅝	39 4	6	73	☽ and ☉
♃ —— 30	16 4 40	81 55 35	51 [illegible]2⅓	37 28⅛ U	37 34	39 57	6	73	☽ and ☉
♄ July 2	18 10 52½	58 23 22½ ‡	70 32½	33 55¼ U	34 18⅞		4	72	☽ and ☉
☉ —— 3	13 43 11	48 39 58	29 9	56 28⅛ U	33 0 7/10	42 32	6	70	☽ and ☉
♃ —— 14	21 5 4½	65 28 23	20 31⅙		1 10⅓	Spithead	6	56	☽ and ☉

*** It must here be observed, that all altitudes are put down as they were observed with Hadley's Sextant, from the ship's deck and consequently are to be corrected for the semi diameter of the object, the refraction, and dip of the horizon, which, on board the Adventure, was about 3 50 The lower limb of the Sun was always observed; but as this could not be the case with respect to the Moon, I have distinguished these Observations, where the lower limb was observed by the letter L, and those where the upper limb was observed by the letter U Where the character † occurs in the column of distances, the apparent time at the ship was got from the altitudes of the Sun taken next immediately preceding the distances, and of course the longitude put down is the longitude of the ship at the time when those altitudes were taken The character ‡ signifies that the apparent time at the ship was got from the altitudes of the Sun next immediately following Where neither of these are found, the time was obtained from the altitudes of the Sun or Star taken with the distances

AZIMUTHS

OF THE

SUN's CENTER,

Taken with an AZIMUTH COMPASS,

TOGETHER WITH

The ALTITUDES of his LOWER LIMB,

Taken at the ſame Time with HADLEY's SEXTANT,

For determining the Variation of the MAGNETIC NEEDLE.

By Mr. WILLIAM BAYLEY, and others,

On Board his MAJESTY's Sloop ADVENTURE.

1772.	Altitude of the Sun's L. L. ° ′	Magnetic Azimuth of the ☉'s Center. ° ′	Variation West. ° ′	No. of Obs.	Latitude North. ° ′	Longitude West. ° ′	Observers.	Remarks.
♄ July 18.	13 56⅓	N. 51 34 W.	22 21	3	46 33	7 50		
♃ —— 23.	18 46⅔	S. 77 41⅔ E.	22 14	3	40 43	11 15		
♀ —— 24.	10 22½	N. 45 23 W.	24 15	1	39 30	11 52		
☽ Aug. 3.	13 51½	N. 58 17½ W.	19 33	4	29 14	17 30		
♂ —— 4.	Amplit.	N. 37 45 W.	18 20	2	28 28	18 5		
☿ —— 5.	11 2⅔	N. 59 58⅔ W.	16 45	3	27 28	18 30		
♃ —— 6.	12 46	N. 91 47½ E.	14 9	4	24 42	19 20		
♀ —— 7.	8 21⅓	N. 62 20 W.	13 42	3	23 41	19 35		
♄ —— 8.	Amplit.	N. 34 0 W.	16 52½	1	21 48	20 10		
	18 40⅓	N. 92 45 E.	12 58	3	20 42	20 40		
☉ —— 9.	16 27⅓	N. 62 46⅔ W.	16 16	3	20 0	21 0		
♂ —— 18.	18 46½	N. 69 5 W.	9 11½	2	12 48	20 45		
☿ —— 19.	15 29	S. 88 32½ E.	9 16	2	10 50	19 40		
☽ —— 24.	13 38	N. 68 41⅓ W.	12 2	3	6 20	14 30		
♃ —— 27.	26 34⅔	N. 69 6⅔ W.	12 10	3	4 9	10 46		
♀ —— 28.	13 6¼	S. 82 12½ E.	16 29	4	3 20	8 39		
♄ —— 29.	9 47⅓	N. 96 33⅓ E.	14 50	3	2 47	6 55		
☽ —— 31.	17 13½	N. 98 7½ E.	16 24	2	2 4	5 40	Mr. Fannin.	
♂ Sept. 1.	16 52⅔	N. 95 20 E.	12 48	3	1 29	6 22		
♃ —— 3.	14 39¼	N. 97 7½ E.	14 8	4	0 49	9 20		
♀ —— 4.	19 37	N. 70 52½ W.	12 10	4	0 50	9 36		
♄ —— 5.	13 26	N. 69 6⅔ W.	14 29	3	0 57	9 52		
	Amplit.	N. 69 0 W.	14 32	1	0 56	9 46		
	19 1	N. 99 25 E.	15 47	3	0 40	9 20		
☉ —— 6.	13 29⅔	N. 70 55 E.	13 0	3	0 31	9 17		
					South.			
☽ —— 7.	17 45	S. 80 50 E.	14 56	3	0 10	9 35		
♂ —— 8.	13 19	S. 81 25 E.	14 1	5	0 36	10 27		
☿ —— 9.	17 30	S. 81 39 E.	13 51	4	1 40	11 5		
♃ —— 10.	14 58	S. 82 15 E.	13 1	2	2 46	11 20		
♄ —— 12.	13 20⅓	N. 75 33½ W.	9 27	3	4 22	13 58		
☽ —— 14.	14 47	N. 73 27½ W.	11 33	2	6 43	14 37		
	Amplit.	N. 76 0 W.	10 56	1	6 43	14 37		
☿ —— 16.	11 14	N. 75 45 W.	7 55	1	9 54	15 57		Very good.
♄ —— 19.	17 49⅔	N. 78 35⅔ W.	5 30	3	14 9	18 42	Mr. Rowe.	
	Amplit.	N. 84 30 W.	4 23	1	14 10	18 43	Mr. Rowe.	
☽ —— 21.	20 17⅔	S. 87 15 E.	4 29	3	18 22	20 30		
♀ —— 25.	Amplit.	S. 86 15 E.	2 9	1	23 55	22 50		
♄ —— 26.	Amplit.	N. 92 30 E.	2 30	1	24 28	22 45		
☉ —— 27.	Amplit.	N. 94 0 E.	1 32	1	25 17	22 30		
	11 50	S. 88 40 E.	1 52	2	25 18	22 30		
♃ Oct. 17.	14 39⅔	S. 82 53 W.	3 44	4	27 28	18 0		
1773.						East.		
☿ Jan. 6.	14 11	S. 47 20 E.	22 30	5	60 26	27 30		
☉ —— 10.	18 25⅓	N. 75 30 W.	25 47	3	62 14	34 40	Mr. Fannin.	A compass made by Gregory.
	17 46¼	N. 77 35 W.		4			Mr. Bayley.	

1773	Altitude of the Sun's L. L.	Magnetic Azimuth of the ☉'s Center	Variation West	No. of Obf.	Latitude South	Longitude Eaft	Obfervers	Remarks
☉ Jan 10	18 25⅓	N 74 6½ W	27 35	3	62 14	34 40	Mr Bayley	A Knight's compafs made by Adams
	17 46¾	N 75 30 W		4			Mr Fannin	

Mr Bayley remarks, that the four preceding Obfervations were made in confequence of their finding that the variations, obferved on board the Refolution, differed from thofe obferved on board the Adventure; and he fays that Knight's Compafs ftood on the fore part of the quarter deck, and that made by Gregory on the poop

1773	Altitude of the Sun's L. L.	Magnetic Azimuth of the ☉'s Center	Variation West	No. of Obf.	Latitude South	Longitude Eaft	Obfervers	Remarks
☽ —— 11	17 39½	N 75 45 W	27 17	2	63 40	35 40		
	8 56½	S 32 0 E	26 14	5	64 15	37 0		
♂ —— 12	19 44½	N 72 17½ W	26 3	7	64 12	37 10		
☿ —— 13	16 54	S 45 15 E	31 5	2	64 4	39 30		Very good
♃ —— 14	16 9	S 103 45 W	28 41	3	63 57	39 35		Good alfo
	14 11	S 103 0 W	31 30	3	63 57	39 35		Gregory's Compafs
♄ —— 16	15 13	S 103 22½ W	29 43	4	65 0	40 3		Knight's ditto
			29 49				Mr Fannin	
			28 51				C Furneaux	
♀ —— 22	20 2¼	S 53 8½ E	33 0	6	60 24	17 40		
			33 30				Mr Kempe	
☿ —— 27	15 5	S 49 6½ E	30 55	3	55 5	52 10		
♂ Feb 2	11 12½	S 45 26½ E	32 28	8	48 43	58 53		
♃ —— 4	16 19½	N 64 10 W	31 22	3	49 37	56 57		Very good
♀ —— 5	18 37½	N 69 18¾ W	8 55	4	48 32	60 20		
			28 55		48 32	60 20	C Furneaux	
			29 10		48 32	60 20	Mr Fannin	
♄ —— 6	7 34	N 75 23½ W	28 55	5	48 9	61 22		
	Evening Amplitude		28 48		48 9	61 30		Great motion
☉ —— 7	18 23	N 69 17 W	28 1	5	49 7	6[illegible] 30		
♀ —— 12	16 3½	S 49 21 E	32 3	3	51 0	71 30		
☉ —— 14	15 37½	N 58 47 W	32 15	5	51 50	76 35		Good
	9 53½	S 47 4¾ E	35 14	4	52 0	78 28	Mr Kempe	
♃ —— 18	8 33½	S 51 23½ E	31 40	3	52 52	91 48		
♄ —— 20	13 15¾	S 59 59¾ E	30 11	4	52 20	99 23		
☉ —— 21	16 16	N 56 28¾ W	29 11	4	52 8	100 6		
♂ —— 23	3 19	N 76 40 W	24 46	6	52 16	105 10		
	Evening Amplitude		25 17		52 16	105 18		Great motion
☿ —— 24	13 4	N 65 0 W	22 22	1	52 2	107 27		
♃ —— 25	15 0	N 65 25 W	20 21	1	51 32	111 12		
	Evening Amplitude		21 4		51 32	111 20		
	15 23	S 72 11¾ E	23 27	4	51 21	113 5		
♄ —— 27	2 42	N 81 6½ W	15 25	3	50 34	118 48		
	Evening Amplitude		15 50		50 34	118 54		
☉ —— 28	11 54¾	S 81 6¾ E	11 18	4	49 30	124 17		
☿ March 3	18 18	N 73 48 W	6 26	5	45 58	130 50		
	13 21½	S 91 29 E	3 9	5	45 17	131 25		
			Eaft					
♀ —— 5	20 39¾	N 75 15 E	2 5	4	43 46	138 42		Great motion

	1773.	Altitude of the Sun's L. L. °	′	Magnetic Azimuth of the ☉'s Center. ° ′	Variation East. °	′	No. of Obs.	Latitude South. °	′	Longitude East. °	′	Remarks.
♄	March 6.	10	$50\frac{3}{5}$	S. 94 56 E.	1	36	5	43	57	141	0	Great motion.
☉	—— 7.	8	$51\frac{1}{2}$	N. 90 $3\frac{1}{3}$ W.	1	33	3	43	46	142	12	
♂	—— 9.	23	$6\frac{1}{2}$	N. 79 $47\frac{3}{4}$ W.	7	6	9	43	42	145	20	
		Amplit.		S. 77 10 W.	7	2	1	43	42	145	30	
☿	—— 10.	25	26	N. 58 40 E.	10	34	4	43	22	147	30	} In Adventure Bay.
☽	—— 15.	11	$20\frac{2}{3}$	S. 89 $8\frac{1}{3}$ W.	9	6	3	43	23	147	30	
♂	—— 16.	22	$19\frac{1}{2}$	N. 62 $22\frac{1}{2}$ E.	7	45	2	42	5	148	41	
☿	—— 17.	5	$52\frac{1}{6}$	S. 86 $43\frac{1}{3}$ W.	6	57	3	41	10	147	50	
		8	$38\frac{3}{5}$	N. 74 51 E.	8	45	5	40	57	147	48	
♀	—— 19.	13	11	N. 72 $2\frac{1}{2}$ E.	6	58	2	39	15	149	46	
♄	—— 20.	11	$39\frac{2}{3}$	S. 91 $38\frac{1}{3}$ W.	8	14	6	39	22	150	40	
☿	—— 24.	21	$12\frac{2}{5}$	N. 56 $53\frac{1}{3}$ E.	11	45	3	39	16	157	13	
♃	—— 25.	9	$6\frac{1}{2}$	S. 88 $56\frac{1}{4}$ W.	11	18	4	39	26	158	7	
		7	$49\frac{1}{2}$	N. 69 45 E.	10	41	4	39	54	159	15	
♀	—— 26.	13	$6\frac{1}{8}$	N. 86 15 W.	10	53	8	40	13	160	14	
♄	—— 27.	8	$55\frac{1}{5}$	N. 88 45 W.	10	13	9	40	16	161	16	
☉	—— 28.	14	11	N. 84 $9\frac{1}{6}$ W.	11	5	6	40	19	161	40	
		9	$15\frac{3}{8}$	N. 66 25 E.	10	55	6	40	32	162	41	
♂	—— 30.				12	41	3	41	17	165	16	
♄	April 3.	6	35	N. 64 $34\frac{2}{5}$ E.	12	12	5	40	18	173	10	Off Cape Farewell.
☉	—— 4.	4	$53\frac{2}{5}$	N. 51 53 E.	15	2	5	41	2	174	0	In Cook's Straits.
☽	—— 5.	9	23	N. 87 12 W.	14	3	7	40	55	174	1	In Admiralty Bay.
	May.	Q. Charlotte's Sound.			13	$31\frac{1}{4}$	82	41	6	174	$1\frac{7}{8}$	
☽	June 7.	5	$20\frac{1}{4}$	N. 39 45 E.	13	1	4	41	37	174	30	Off Cape Pallifer.
☽	—— 21.	10	$44\frac{4}{5}$	N. 30 14 E.	10	34	5	44	30	196	17	
♂	—— 22.	10	$8\frac{9}{10}$	N. 52 55 W.	10	59	5	44	32	196	47	
☉	—— 27.	12	$27\frac{3}{4}$	N. 29 $56\frac{1}{4}$ E.	10	4	4	42	29	197	55	Gregory's Compafs.
		13	$45\frac{3}{4}$	N. 28 $36\frac{1}{4}$ E.	10	10	4	42	29	197	55	Knight's Compafs.
☽	—— 28.	13	$8\frac{1}{6}$	N. 29 $31\frac{1}{2}$ E.	10	23	6	42	40	198	50	
♂	—— 29.	10	$37\frac{1}{4}$	N. 33 $20\frac{2}{3}$ E.	9	21	7	42	56	200	09	
♃	July 1.	10	$32\frac{7}{8}$	N. 53 $36\frac{1}{7}$ W.	9	58	7	43	6	202	35	
♀	—— 2.	6	$16\frac{2}{3}$	N. 39 18 E.	9	51	5	43	9	204	43	
♂	—— 6.	6	$13\frac{1}{4}$	N. 59 $36\frac{1}{8}$ W.	7	56	8	41	52	208	35	
♃	—— 8.	12	0	N. 35 45 E.	7	37	4	42	33	212	15	
☉	—— 11.	7	41	N. 55 16 W.	6	$1\frac{1}{4}$	4	43	28	217	41	
☽	—— 12.	Amplit.		N. 64 30 W.	5	23	1	43	7	219	31	
♂	—— 13.	4	$42\frac{1}{6}$	N. 60 $29\frac{1}{2}$ W.	6	24	6	42	50	220	38	
♄	—— 17.	7	$29\frac{4}{5}$	N. 49 49 E.	5	43	5	38	4	225	10	
☉	—— 18.	8	$58\frac{4}{5}$	N. 59 $31\frac{7}{8}$ W.	5	13	8	37	42	225	30	
☽	—— 19.	9	8	N. 61 $4\frac{1}{4}$ W.	5	38	4	36	20	225	33	
		5	31	N. 52 $5\frac{1}{5}$ E.	6	33	5	36	41	225	37	
♃	—— 22.	5	$51\frac{1}{7}$	N. 69 $3\frac{2}{7}$ W.	5	59	7	30	46	225	0	
		6	$57\frac{2}{7}$	N. 56 $19\frac{4}{7}$ E.	5	43	7	29	33	224	5	
☽	—— 26.	10	$17\frac{2}{5}$	N. 66 $26\frac{1}{3}$ W.	5	31	6	28	34	224	15	
		9	$37\frac{4}{5}$	N. 55 $52\frac{2}{5}$ E.	6	0	5	28	0	225	5	
☿	—— 29	12	$36\frac{1}{2}$	N. 66 $17\frac{1}{6}$ W.	5	33	6	27	20	223	52	
		5	$38\frac{2}{5}$	N. 70 55 W.	5	29	5	27	20	223	56	

1773	Altitude of the ☉ L. L. ° '	Magnetic Azimuth of the ☉ ° '	Variation East ° '	No. of Obs.	Latitude South	Longitude East	Remarks
♀ July 30	1 46	N 66 57 4/7 W	5 6	7	26 57	224 54	
♄ —— 31	6 11 1/5	N 71 13 W	6 23	5	6 9	225 15	
☉ Aug 1	1_ 41	N 57 38 1/8 E	6 7	6	23 27	226 18	
☽ ——	5 22 1/4	N 62 54 1/4 E	5 12	6	22 25	226 55	
♂ —— 3	6 40 1/6	N 72 36 W	4 29	6	21 59	227 3	
☿ —— 4	8 1/7	N 72 44 1/7 W	4 54	7	21 14	227 18	
♃ —— 5	6 5 1/7	N 73 22 1/7 W	4 6	7	20 28	227 57	
♂ —— 10	Amplit	N 69 10 E	4 41	1	17 19	219 5	
	4 32	N 68 28 1/7 E	4 50	7	17 19	219 5	
♃ —— 12	Amplit	N 69 0 E	5 29	1	17 14	215 30	
	6 10	N 66 46 E	5 35	6	17 14	215 26	
☉ —— 15	7 3	N 66 47 E	6 9	4	17 48	210 50	
♄ —— 21	15 15	N 65 56 E	5 38¾	6	17 44½	210 35	
August			5 0	29	17 29¾	210 27½	At Point Venus
♀ Sept 3	10 30¼	N 85 27 W	6 43	6	16 45	208 51¼	Huaheine
♄ —— 4	11 42 1/2	N 85 42¼ W	7 0	4	16 45	208 51¼	Ditto
☉ —— 5	8 37	N 86 23 1/2 W	6 14	4	16 45	208 51¼	Ditto
	Amplit	N 89 30 W	6 34	1	16 45	208 51¼	Ditto
☽ —— 6	5 4	N 87 33 1/3 W	6 2	6	16 45	208 51¼	Ditto
♂ —— 7	9 45¼	N 86 32 W	6 14	7	16 58	208 32	Off Ulietea
♃ —— 9	11 49	N 86 45 1/8 W	6 0	6	16 45 1/3	208 35	At Ulietea
☿ —— 15	4 18¼	N 91 51¼ W	6 15	4	16 45 1/3	208 35	Ditto
♄ —— 18	12 0 1/2	N 89 58 1/2 W	5 50	4	17 23	206 40	
	10 41	N 78 48 1/3 E	6 12	6	17 36	206 20	
☉ —— 19	13 28	N 77 45 E	6 9	5	17 55	205 5	
☽ —— 20	13 21	N 77 23 1/3 E	7 7	3	18 20	204 40	
♂ —— 21	7 48	N 93 35 W	6 53	3	18 27½	204 17	
	9 22	N 79 23 1/3 E	6 57	6	18 36	203 49	
☉ —— 26	12 38	N 78 22¼ E	8 26	6	20 36	193 37	
☿ —— 29	7 22	N 80 40 1/6 E	9 21	6	21 16	186 46	
♄ Oct 2	11 6¼	N 99 3¼ W	9 3	6	21 21½	185 26	At Eaoowe
☉ —— 3	Amplit	S 75 27 W	10 11	1	21 4¼	185 4	At Tongatabu
♃ —— 7	11 29	S 78 15 W	10 11	6	21 9	185 0	
♀ —— 8	9 16	S 76 5 W	11 14	3	22 5	184 57	Great motion
☽ —— 11	1_ 24	N 79 34¾ E	11 19	4	25 3	181 58	
♂ —— 12			11 25	4	26 53	181 1	
☿ —— 13	14 4¼	S 76 46 1/2 W	11 39	4	27 32	180 50	
	16 46½	N 78 42 1/3 E	11 28	6	28 24	180 18	
♃ —— 14	6 17 1/8	N 84 15 1/6 E	11 53	6	29 48	179 50	
☉ —— 17	10 56	S 72 12 1/6 W	13 41	6	32 48	180 0	
	14 47¼	N 78 25¼ E	13 17	4	33 30	180 2	
☿ —— 20	7 52	N 84 0 E	13 16	6	38 54	178 35	
♃ —— 21	13 9½	S 73 56¼ W	13 4	4	39 18	177 58	Off New Zealand
	8 44 1/6	N 83 28 1/2 E	13 32	6	39 53	177 16	Ditto
♀ —— 29	1_ 2_	S 66 35 W	14 43	6	41 48½	175 58	Ditto
☿ Nov 3	10 29	S 65 40 1/8 W	13 21	6	41 18	176 42	Ditto
♃ —— 4	8 57 1/6	S 64 4½ W	13 12	6	41 38	175 40	Cape Pallifer due North

1773.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s Center. ° ′	Variation East. ° ′	No. of Obs.	Latitude South. ° ′	Longitude East. ° ′	Remarks.
♂ Nov. 9.	8 $4\frac{1}{6}$	S. 87 $47\frac{3}{5}$ E.	13 12	6	38 $21\frac{1}{4}$	178 $33\frac{3}{4}$	In Tolaga Bay.
☿ —— 10.	5 $53\frac{1}{6}$	S. 86 50 E.	14 20	6	38 $21\frac{1}{4}$	178 $33\frac{3}{4}$	Ditto.
☽ —— 15.	11 46	N. 91 $1\frac{1}{2}$ E.	13 28	6	38 $21\frac{1}{4}$	178 $33\frac{3}{4}$	Ditto.
♂ —— 16.	9 $46\frac{1}{6}$	S. 60 $57\frac{3}{5}$ W.	12 46	6	38 53	178 23	Off New Zealand.
♃ Dec. 23.	11 15	S. 83 $25\frac{5}{6}$ E.	14 56	6	42 44	175 0	
♀ —— 24.	12 $13\frac{1}{3}$	S. 54 $17\frac{1}{2}$ W.	14 59	6	43 22	175 13	
1774.							
☽ Jan. 10.	22 $12\frac{9}{10}$	S. 91 $43\frac{1}{3}$ E.	7 30	5	58 12	212 16	
☿ —— 12.	10 52	S. 57 $21\frac{2}{3}$ W.	8 44	6	58 45	215 50	
☿ —— 19.	12 $16\frac{1}{6}$	S. 62 $53\frac{1}{3}$ W.	7 57	3	59 29	242 15	
♀ —— 21.	13 $54\frac{1}{2}$	S. 62 $20\frac{5}{6}$ W.	12 1	6	60 10	247 25	
	12 $39\frac{1}{3}$	S. 83 $35\frac{1}{6}$ E.	11 4	6	59 47	248 15	
♄ —— 22.	14 $55\frac{5}{6}$	S. 64 $53\frac{1}{3}$ W.	11 49	6	59 23	249 42	
☉ —— 23.	14 $13\frac{1}{3}$	S. 64 46 W.	11 4	5	59 19	252 54	
☽ —— 24.	10 $18\frac{1}{3}$	S. 56 $41\frac{2}{3}$ W.	12 59	5	59 37	256 2	
♀ —— 28.	14 $15\frac{1}{2}$	S. 55 11 W.	22 59	6	61 47	271 50	
♄ —— 29.	14 $37\frac{1}{2}$	S. 55 $26\frac{1}{2}$ W.	24 $1\frac{1}{2}$	6	61 53	276 45	
☉ —— 30.	13 $49\frac{1}{6}$	S. 53 $55\frac{1}{6}$ W.	24 40	6	61 31	281 55	
	9 $47\frac{5}{6}$	S. 45 $18\frac{2}{3}$ W.	25 47	6	61 30	282 0	
☉ Feb. 6.	13 $26\frac{1}{2}$	N. 78 $15\frac{3}{5}$ E.	19 20	7	59 30	313 0	Knight's Compass.
	14 $31\frac{1}{2}$		19 41	2	59 30	313 1	Gregory's Compass.
☿ —— 9.	16 $4\frac{1}{6}$	S. 71 $54\frac{1}{6}$ W.	15 54	6	57 12	318 48	
☿ —— 16.	19 $23\frac{5}{6}$	S. 89 $45\frac{5}{6}$ W.	5 57	6	53 55	332 46	
	11 $11\frac{5}{6}$	S. 77 $44\frac{1}{3}$ W.	6 40	6	53 55	332 50	
	Amplit.	S. 53 57 W.	6 35	1	53 57	332 57	
☉ —— 20.	27 $9\frac{1}{10}$	N. 72 48 W.	2 14	6	53 21	341 7	
☽ —— 21.	13 $48\frac{1}{2}$	N. 88 4 E.	0 50 West.	8	53 16	349 17	
♂ —— 22.	11 28	S. 89 $35\frac{1}{3}$ W.	1 21	6	53 14	350 7	
♃ —— 24.	12 $43\frac{1}{2}$	N. 88 $57\frac{1}{3}$ W.	4 57	6	52 51	356 7	
♄ —— 26.	11 $7\frac{1}{6}$	S. 81 $13\frac{1}{4}$ E.	9 25	6	53 25	2 28	
	Repented a day, and rejected 360 degrees of Longitude.						
♄ —— 26.	13 $30\frac{2}{5}$	N. 75 $39\frac{2}{5}$ W.	10 4	5	53 34	3 48	
♂ March 1.	12 $26\frac{1}{3}$	N. 72 $31\frac{1}{2}$ W.	11 44	6	53 48	8 21	
♃ —— 3.	10 $5\frac{1}{6}$	N. 71 $5\frac{1}{2}$ W.	16 20	6	52 57	12 10	
☽ —— 7.	12 $23\frac{1}{3}$	N. 66 $45\frac{4}{5}$ W.	16 54	10	48 15	14 2	
	10 22	S. 77 $20\frac{1}{3}$ E.	16 48	6	47 53	14 0	
♄ —— 12.	6 $22\frac{1}{2}$	S. 71 $53\frac{1}{3}$ E.	19 51	6	40 24	15 10	
	11 7	S. 75 $52\frac{1}{2}$ E.	19 58	6	40 24	15 10	
☉ —— 13.	16 25	N. 59 $20\frac{5}{6}$ W.	20 9	6	39 $36\frac{1}{2}$	15 18	
☽ —— 14.	13 3	N. 61 $56\frac{2}{3}$ W.	20 52	5	37 2	16 10	
♀ —— 16.	13 $29\frac{1}{2}$	S. 71 5 E.	20 49	4	34 21	17 32	
			21 $32\frac{1}{4}$	20	33 $55\frac{3}{4}$	18 $23\frac{1}{2}$	Cape of Good Hope.
☽ April 18.	5 $1\frac{1}{6}$	S. 87 $6\frac{2}{3}$ E.	19 43	3	32 57	16 25	
♂ —— 19.	7 $19\frac{5}{6}$	S. 89 $21\frac{2}{3}$ E.	19 $29\frac{1}{3}$	6	32 38	16 3	
♃ —— 21.	8 $1\frac{1}{6}$	S. 90 $54\frac{2}{3}$ E.	18 27	6	30 33	13 9	

1774	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉ Centre	Variation West		Latitude South	Longitude East	Remarks
♀ April 22	Amplit	N 60 45 W	18 54	1	30 0	13 05	
	5 58	S 90 0⅙ E	18 8	6	9 [illegible]	13 18	
☽ —— 25	7 45	S 93 25 E	15 37	6	25 7	8 40	
♂ —— 26	5 50	S 92 42 E	15 14	(	24 2	7 24	
☿ —— 27	5 41	N 56 50 W	15 6	3	23 38	7 4	
♀ —— 29	6 2	S 93 13½ E	15 21	(	1 29	3 38	
♄ —— 30	5 44½	S 94 1 E	14 41	4	0 56	2 45	
☽ May 2	5 11	S 94 0 E	14 44	5	19 39	1 21	
	Amplit	N 87 25 E	14 -5	1	19 30	0 53	
♂ —— 3	3 29	S 94 5 E	14 15	3	19 30	0 53	
						West	
♃ —— 5	6 8	S 96 40½ E	13 22	4	17 58	1 11	
☽ —— 9	6 43	N 57 16½ W	12 35	3	14 33	5 9	
☿ —— 11	6 7	N 80 47 E	10 44	6	11 0	9 9	
♀ —— 13	5 24	N 59 21 W	10 39	4	8 57	11 17	
	7 33	N 60 26 E	10 40	6	8 15	11 58	
♄ —— 14	11 0	N 78 15 E	9 37	4	6 52	13 56	
☉ —— 15	7 52	N 78 51 E	9 5	3	5 33	15 28	
☽ —— 16	10 46	N 78 50 E	9 31	3	4 17	16 56	
♂ —— 17	8 12	N 78 41 E	8 57	6	2 53	18 44	
☿ —— 18	5 12	N 78 31 E	8 36	4	1 21	19 40	
♃ —— 19	11 30	N 60 41 W	8 45	3	0 42	20 10	
					North		
♀ —— 20	7 44	N 78 25 E	8 42	3	1 19	20 41	
♂ —— 24	8 44	N 76 45 E	7 16	(	5 19	22 17	
☿ —— 25	11 20	N 76 31 E	7 27	3	5 50	22 48	
♂ —— 31	15 26	N 61 28 W	7 28	(	6 38	25 20	
☿ June 1	8 56	N 76 20 E	7 48½	4	7 4	25 24	
♀ —— 3	9 7	N 75 7 E	6 46½	4	7 31	26 33	
☽ —— 6	11 16	N 73 27 E	5 4	5	9 6	28 33	
♂ —— 7	12 55	N 63 10 W	4 41	4	9 30	29 2	
♃ —— 9	7 20	N 63 56 W	4 0	3	12 9	31 24	
♀ —— 10	9 41	N 71 23 E	2 55	5	14 23	33 39	
♄ —— 11	7 16	N 64 30 W	3 19	6	15 4	34 1	
♂ —— 14	12 12	N 74 3 E	4 17	6	20 23	36 30	
☿ —— 15	10 55	N 64 13 W	4 51	5	21 14	36 50	
♃ —— 16	9 44	N 63 42 W	5 17	5	22 4	37 40	
	9 38	N 74 13 E	5 35	6	2 24	38 13	
♄ —— 18	9 53	N 64 14 W	6 28	4	25 35	39 14	
☽ —— 20	14 35	N 62 38 W	8 20	(	28 14	39 4	
	15 20	N 79 57 E	8 11		28 57	39 20	
♀ —— 24	13 2	N 60 20 W	10 7	6	34 42	40 29	
♀ July 6	5 48	N 39 48 W	22 42	5	48 19	20 20	

A
J O U R N A L
OF THE
SITUATIONS of his Majesty's Sloop ADVENTURE each Day at Noon, during her late Voyage on Discoveries towards the South;

As shewn by the Log, by Mr. ARNOLD's two Time-keepers, No. 1. and No. 2: and also by Observation.

TOGETHER WITH

The LONGITUDES and LATITUDES of the most remarkable Places seen in that Voyage.

By Mr. WILLIAM BAYLEY.

1772.		Course.	Dist.	Latitude North by Account.	Latitude North by Observat.	Longitude West by Account.	Longitude West by Observat.	Longitude West by No. 1.	Longitude West by No. 2.	Remarks.
		°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′	
☉	July 12.			50 21½		4 16½	Took a departure from Drake's Island.			
☽	—— 13.				50 6	4 33⅓				
♂	—— 14	S. 16⅓ W.	45½	49 22½		4 52½		4 48⅛	4 41⅛	
☿	—— 15.	S. 27⅓ W.	25	49 0	48 50⅓	5 18		5 11⅓	5 7⅛	
♃	—— 16.	S. 43 W.	105	47 33	47 29⅓	7 11		7 1⅓	6 56⅛	
♀	—— 17.	S. 18 W.	68	46 24	46 26	7 41½		7 18⅓	7 10⅞	
♄	—— 18	N. 35 W.	34½	46 45		8 1¾		7 39⅓	7 27¼	
☉	—— 19.	S. 19⅔ W.	83	45 28	45 20⅔	8 46		8 5	7 51¼	
☽	—— 20.	S. 4½ W.	77	44 4	43 56	8 55		8 14⅛	7 56⅛	
♂	—— 21	S. 53⅔ W.	44	43 30	43 29⅔	9 41		8 35⅔	8 12⅛	
☿	—— 22.	N. 66⅛ W.	17.3	43 33⅓	43 37⅓	10 3½	9 32	8 42⅓	8 18⅛	
♃	—— 23.	S. 35¼ W.	93.7	42 20	42 16	11 33	11 28	9 59⅛	9 32⅛	
♀	—— 24.	S. 28 W.	156	39 59	40 3¾	13 07	11 55	11 29⅓	10 55⅘	
♄	—— 25.	S. 28 W.	156	37 44	37 40⅓	14 45	13 33	12 51⅞	12 14⅛	
☉	—— 26.	S. 27 W.	143	35 40	35 32	16 6	14 54	14 14⅛	13 34⅛	
☽	—— 27.	S. 19 W.	114	33 44	33 42	16 50	15 38	15 2⅛	14 18⅛	
♂	—— 28.	S. 49¼ W.	81	32 50	32 48	18 7	16 55	16 10⅓	15 25⅛	
☉	Aug. 2.				32 0⅓	16 29		16 56⅛	15 49⅛	
☽	—— 3.	S. 23 W.	51½	27 52½	27 53	16 52		17 19⅛	16 9⅛	
♂	—— 4.	S. 28⅔ W.	73	28 37½	28 40	17 32	18 3	18 8⅛	16 53⅛	
☿	—— 5.	S. 23 W.	51½	27 52	27 53	17 55½	18 26	18 41⅛	17 13⅛	
♃	—— 6.	S. 10⅙ W.	108	26 7	26 6½	18 17	19 2	19 2½	17 32⅛	
♀	—— 7.	S. 11 W.	124½	24 5	24 9	18 42	19 27	19 4⅛	17 56⅛	
♄	—— 8.	S. 12¼ W.	114	22 18	22 10	19 11	19 56	19 57⅛	18 25⅛	
☉	—— 9	S. 23 W.	125	20 14	20 9	20 05	20 50½	20 24⅛	18 53⅛	
☽	—— 10.	S. 23¼ W.	140	18 1	18 01	21 4¾	22 11½	21 38⅛	20 01⅛	
♂	—— 11.	S. 19¼ W.	116	16 12	16 12	21 45	22 50	22 19⅛	20 40⅛	
☿	—— 12.	S. 30⅓ W.	75½	15 7		22 24½	23 25	22 48⅛	21 6⅛	
		Porto Praya in St. Jago.			14 54		23 29			
♄	—— 15.	S. 30⅓ E.	74	13 48		22 48	22 48	22 30⅛	20 33⅛	
☉	—— 16.	S. 7 E.	86½	12 22	12 22	22 37	22 30	22 20⅛	20 20⅛	
☽	—— 17.	S. 45 E.	45.3	11 50		22 04	21 57	21 47⅛	19 44⅛	
♂	—— 18.	S. 34⅓ E.	51.6	11 20	11 25	21 28	21 21⅓	20 42⅛	18 38⅛	
☿	—— 19.	S. 36⅔ E.	47.7	10 47		20 59	20 52	19 12⅛	17 6⅛	
♃	—— 20.	S. 8⅓ E.	73.7	9 34		20 48	20 41	19 34⅛	17 27⅛	
♀	—— 21.	S. 33⅓ E.	32	9 7	8 41	20 12	20 06	18 58⅛	16 48⅛	
♄	—— 22.	S. 47½ E.	68.2	7 55	7 52	19 22	19 16	18 7⅛	15 54⅛	
☉	—— 23.	S. 39⅓ E.	76½	6 56	6 53⅓	18 30	18 24	16 3⅛	13 50⅛	
☽	—— 24.	S. 66½ E.	73.8	6 24	6 24⅓	17 24	17 18	14 35⅛	12 20⅛	
♂	—— 25.	S. 55½ E.	55½	5 52½	5 54	16 38	16 32	13 49⅛	11 31⅛	
☿	—— 26.	S. 59 E.	64¼	5 12	5 10	15 43	15 37	11 46⅛	9 29⅛	
♃	—— 27.	S. 41 E.	74¼	4 16	4 14	14 54	14 48	10 56⅛	8 34⅔	
♀	—— 28.	S. 63⅔ E.	74½	3 44	3 41	13 47	13 41	9 22⅛	6 41⅛	It appears from the Watch that a current has set for several days East, or nearly so, and the Observ. confirm it.
♄	—— 29.	S. 65⅓ E.	62¼	3 13⅔	3 15⅔	12 50½	12 44½	8 47⅛	5 44⅓	
☉	—— 30.	S. 61⅓ E.	75¾	2 38	2 40	11 44	11 38	6 28⅛	4 5⅛	
☽	—— 31.	S. 84½ E	62.6	2 34	2 34½	10 42½	10 36½	4 18⅜	1 48⅓	
♀	Sept. 1.	S. 45¼ W.	49	1 59	1 59	11 18	5 46½	4 36⅛	2 0⅛	

1772		Course	Dist	Latitude North by Account	Latitude North by Observat.	Longitude West by Account	Longitude West by Observat.	Longitude West by No 1	Longitude West by No 2	Remarks
			Miles							
☿ Sept	2	S 53 W	59 6	1 23	1 23	12 5⅓	6 34⅓	4 24	2 48	
♃ ——	3	S 72 W	74½	1 0	1 01	13 16	8 32	6 35	4 5	
♀ ——	4	S 81 W	64½	0 49	0 51	14 20	9 31	7 56	5 24	
♄ ——	5	N 69½ W	157	0 56	0 56½	14 35	9 42	8 08	5 37	
☉ ——	6	S 64 E	48	0 35	0 36	13 53	9 21	7 12	4 32	
☽ ——	7	S 72 E	43	0 23	0 23½	13 13	8 44	6 25	3 56	
				South	South					
♂ ——	8	S 57¼ W	76½	0 18	0 18	14 18	9 49	7 28	4 58	
☿ ——	9	S 54 W	62	0 54	0 54½	15 08	10 39	8 24	5 52	
♃ ——	10	S 31 W	72	1 56½	1 57⅓	15 45	11 16	9 45½	7 11	
♀ ——	11	S 31½ W	72	2 58	2 59⅓	16 23	11 54	10 55	[illegible] 19	
♄ ——	12	S 22½ W	75 6	4 10	4 10⅓	16 52	12 46	11 4	[illegible] 9	
☉ ——	13	S 41½ W	72½	5 3½	5 5	17 40	13 34	12 46	10 6	
☽ ——	14	S 32 W	98½	6 29½	6 29⅓	18 33	14 27	13 47	11 7	The Ship confiderably to the S W of her reckoning
♂ ——	15	S 21¼ W	106	8 9½	8 10	19 12	15 06	14 26	11 40	
☿ ——	16	S 22½ W	94	9 36	9 37	19 47	15 41	15 20	12 39½	
♃ ——	17	S 28¼ W	95	10 59	10 0⅓	20 31	16 28	16 [illegible]	13 28	
♀ ——	18	S 25½ W	95½	12 26	12 26⅓	21 15⅓	17 38⅓	16 41½	14 01	
♄ ——	19	S 29½ W	113	14 25	14 4⅓	22 13⅓	18 36	17 39	14 42	
☉ ——	20	S 24¼ W	99	15 35	15 34¼	22 56⅓	19 14	18 17	15 13	
☽ ——	21	S 23½ W	111	17 08	17 9⅓	23 38	19 56	18 56⅓	16 13	
♂ ——	22	S 15 W	93	18 39	18 39⅓	24 3	20 36	19 26	16 35	
☿ ——	23	S 10¼ W	88	20 03	20 6¼	24 20	21 32	19 56	17 3	
♃ ——	24	S 10½ W	83½	21 29½	21 28⅓	24 36⅓	22 01	20 17	17 4	
♀ ——	25	S 31½ W	96	22 48	22 50	25 30	22 55	20 40	17 59	
♄ ——	26	S 5½ E	83½	24 11	24 13	25 21 4	22 46 4	21 30	18 13	
☉ ——	27	S 2¼ E	27	24 38 6	24 40	25 20 2	22 45 2	21 22	17 36	
☽ ——	28	S 22½ E	52	25 25	25 28	24 58	22 23	21 11	17 23⅓	
♂ ——	29	S 57 E	82½	26 13	26 13	23 42	21 50	19 50	16 3	
☿ ——	30	S 67¼ E	119	27 0	26 58	21 40	19 48	17 41	13 53	
♃ Oct.	1	S 57¼ E	105	27 23	27 25	19 43	18 13	15 52	11 41	
♀ ——	2	S 77½ E	42½	27 34	27 33	18 57	17 07	14 35	10 29½	
♄ ——	3	S 68¼ E	85½	28 05	28 04	17 18	16 02	12 53	8 45	A S W fwell
☉ ——	4	S 64¼ E	128	28 59	28 58⅓	15 09	14 11	10 27	6 8	Ditto
☽ ——	5	S 88½ E	77½	29 01	29 0	13 32⅓	12 21	8 47		Ditto
♂ ——	6	S 8¼ W	42½	29 43¼	29 42½	13 42	12 29	8 54⅓		
☿ ——	7	South	96	31 18	31 18	13 40	12 29	9 7		
♃ ——	8	S 9⅓ E	85	32 42	32 42⅓	13 23	12 12	8 50		
♀ ——	9	S 42 E	94 3	33 51½	33 52⅓	12 07	10 56	7 56		
♄ ——	10	S 67⅓ E	93	34 27	34 28⅓	10 24	19 13	5 25		
☉ ——	11	S 78 E	63½	34 41	34 41	9 8	6 50	4 5		
☽ ——	12	S 73 E	24	8 37	6 04	8 37	6 04	3 33		
♂ ——	13	S 71 E	58½	35 08	35 09	7 30	6 0	2 25		
☿ ——	14	S 77⅓ E	92½	35 30	35 29⅓	5 34	4 04	0 29		
								East.		
♃ ——	15	S 88 E	95 6	35 33	35 33	3 25	1 51	1 55		
							East			
♀ ——	16	N 82⅓ E	142½	35 13	35 14	0 27	1 07	5 06½		

1772.		Course.	Dist.	Latitude South by Account.	Latitude South by Observat.	Longitude East by Account.	Longitude East by Observat.	Longitude East by No. 1.	Remarks.
		°	Miles.	° ′	° ′	° ′	° ′	° ′	
♄	Oct. 17.	N. 81 E.	110	34 57	34 57¼	1 41	4 49	7 25$\frac{4}{7}$	
☉	—— 18.	N. 79½ E.	135	34 33	34 33	4 27	7 35	10 9$\frac{7}{8}$	
☽	—— 19.	N. 78$\frac{3}{4}$ E.	58	34 22	34 21	5 27	8 35	10 58$\frac{7}{8}$	
♂	—— 20.	S. 38 E.	30.4	34 45	34 45	5 49.6	8 7¼	11 24$\frac{7}{8}$	
☿	—— 21.	S. 21 E.	50¼	35 33	35 32	6 16	8 37	11 24$\frac{7}{8}$	
♃	—— 22.	S. 17 E.	80	36 48¼	36 49	6 45	9 6	11 53$\frac{7}{8}$	
♀	—— 23.	S. 56¼ E.	35.3	37 09	37 10	7 24	9 45	12 32$\frac{7}{8}$	
♄	—— 24.	N. 61¼ E.	99.3	36 39	36 39	9 22¼	11 43½	15 8$\frac{4}{7}$	
☉	—— 25.	N. 58 E.	138	35 27¼	35 26	11 47¼	14 08	17 24¼	
☽	—— 26.	N. 59¼ E.	85¼	34 42	34 43	13 16¼	15 37	18 32$\frac{4}{7}$	
♂	—— 27.	N. 47 E.	82	33 47	33 47	14 29¼	16 50	19 33$\frac{1}{7}$	
☿	—— 28.	N. 79¼ E.	49	33 39	38 38	15 28¼	17 49	20 23$\frac{7}{8}$	
♃	—— 29.	S. 78¼ E.	68	33 51¼	——	16 49	19 09	21 43$\frac{7}{8}$	
☽	Nov. 23.	S. 40 W.	49½	34 33	34 34	17 41½	——	17 38½	
♂	—— 24.	S. 9½ E.	46½	35 18.6	35 20	17 51¼	——	17 47¾	
☿	—— 25.	S. 22½ W.	123	37 13.6	37 14	16 52¾	——	16 39¾	Both days the ship
♃	—— 26.	S. 20$\frac{3}{4}$ W.	113½	39 0	39 0	16 01¾	——	15 42¼	was S. W. of Acc.
♀	—— 27.	S. 24$\frac{3}{4}$ E.	67	40 0	40 01	16 37½	——	16 34¼	
♄	—— 28.	S. 5 W.	54	40 55	40 55	16 31¼	——	16 28	
☉	—— 29.	S. 1 W.	74.4	42 9	42 8	16 36	——	16 26¼	
☽	—— 30.	S. 53¼ E.	30	42 27	42 26	17 9½	17 39	17 54¾	
♂	Dec. 1.	S. 5 E.	48½	43 15	43 14	17 20	17 53¼	18 5¼	
☿	—— 2.	S. 68½ E.	33	43 26	——	18 3½	18 36¾	17 57¾	
♃	—— 3.	S. 10¾ E.	63	44 29	44 28	18 20	18 40	19 23½	
♀	—— 4.	S. 11¼ W.	79	45 45	45 44	17 58½	18 2	18 44	
♄	—— 5.	S. 14⅛ W.	87	47 9	47 9	17 27¼	17 31	18 10¼	
☉	—— 6.	S. 2 E.	73½	48 23	43 23	17 30¾	17 34½	18 13½	
☽	—— 7.	S. 1½ W.	86.1	49 48	49 49	17 0¼	17 4	17 43¼	
♂	—— 8.	N. 83½ E.	28½	49 46	——	17 37¼	17 41½	18 21¼	
☿	—— 9.	S. 72 E.	12	49 50	49 47	17 55¼	18 0	21 05¼	
♃	—— 10.	S. 5½ W.	77½	51 3	51 4	17 43¼	17 48	20 55¼	The first Ice Island.
♀	—— 11.	S. 17½ E.	48	51 50	51 50	18 6¼	18 11	21 43¼	Ice Islands.
♄	—— 12.	S 23½ W.	62	52 46	——	17 17¾	17 23	20 54¼	Many Ice Islands.
☉	—— 13.	S. 1¾ E.	65.2	53 51	——	17 21¼	17 26½	21 8¼	Ditto.
☽	—— 14.	S. 25¾ E.	68	54 52	54 52	17 48¾	18 16½	21 58¼	Ditto Penguins.
♂	—— 15.	S. 57½ E.	17	55 2	Cloudy.	18 14¼	18 41½	22 23¾	Ice Islands.
☿	—— 16.	N. 75$\frac{6}{7}$ E.	57	55 06	Cloudy.	18 21½	18 49½	22 41½	Many ditto.
♃	—— 17.	S. 45⅙ E.	28½	55 20	55 21	18 59½	19 27	23 54¼	Ditto ditto.
♀	—— 18.	S. 10 E.	20½	55 1	Cloudy.	19 5¼	24 26	24 13¼	Ditto ditto.
♄	—— 19.	N. 44½ E.	36	54 34	Cloudy.	19 49¾	25 10	25 30¼	S. S. E. current,
☉	—— 20.	N. 73$\frac{6}{7}$ E	79	54 11	Cloudy.	22 6¼	27 27	27 46¼	ran ½ a mile an h.
☽	—— 21.	N. 84½ E	41	54 7	54 7	23 6¼	28 27	29 40½	Many Ice Islands.
♂	—— 22.	S. 23¾ E.	49	54 50	54 52	23 40¼	29 1	30 14½	Ditto.
☿	—— 23.	S. 50½ E.	51.6	55 25	55 24	24 52¼	30 12	32 2¼	Ditto.
♃	—— 24.	S. 5⅓ W.	66	56 30	56 29½	24 42¼	30 02	32 0	Log 48 feet to 29″½.
♀	—— 25.	S. 20½ W.	90	57 54	Cloudy.	23 46¼	29 6	——	Ditto.
♄	—— 26.	S. 67½ W.	94	58 30	58 30	21 4¼	26 22	27 32¼	Little Ice.

1772	Course	Dist. Miles	Latitude South by Account	Latitude South by Observation	Longitude East by Account	Longitude East by Observation	Longitude East by N[illegible]	Remarks
☉ Dec 27	N 82¼ W	64½	58 21	58 21	18 48	24 6	25 16	Current S S [illegible] of [illegible] mile [illegible]
☽ —— 28	S 73 W	62	58 39	Cloudy	16 53¾	22 11	23 [illegible]	Many birds
♂ —— 29	S 65¼ W	74	59 10	59 11	14 39¾	19 57	21 7	Little Ice
☿ —— 30	S 75¾ W	46	59 22	59 22	13 7¼	18 25	17 2	Many Penguins
♃ —— 31	S 59½ W	65	59 55	Cloudy	11 27¾	16 45	21 [illegible]	Log 18 feet to 2[illegible]
1773								
♀ Jan 1	S 74¾ W	55	60 9	Cloudy	9 42¾	15 0	14 02	I of 48 feet to 79
♄ —— 2	S 55 W	6[illegible]	59 15	59 20	7 54¼	10 4	10 58	Many Penguins
☉ —— 3	S 84¾ E	40	59 22	Cloudy	9 4¼	11 24	12 18	Much Ice
☽ —— 4	N 76¼ E	95	59 0	59 1	12 4	14 24	15 8	Many whales
♂ —— 5	S 76 E	151¾	59 37	Cloudy	16 54¼	19 14	20 8	Swell from N W
☿ —— 6	S 79½ E	130	59 59	59 59	20 46¼	23 8	——	Ice
♃ —— 7	S 73 E	120	60 34	60 36	24 41¼	27 1	28 58¾	N W swell cont
♀ —— 8	S 70 E	130	61 18	61 19	29 0¼	31 20	33 17¾	I of [illegible] feet to [illegible]
♄ —— 9	S 76¾ E	67	61 36	61 35	32 6¼	33 26	35 17¾	Much ice
☉ —— 10	S 55 E	38	61 56	61 55	32 10¼	34 30	37 1	Watered at the ice
☽ —— 11	S 22 E	90	63 19	63 19	33 26	35 46	38 18¾	Yet much ice
♂ —— 12	S 30 E	65	64 14	64 14	34 40¾	37 0	39 3	Took up more ice
☿ —— 13	East	16	64 14	64 13¾	35 17	37 37	39 40	Much ice and few
♃ —— 14	N 26 E	16	63 58	63 59	35 34	39 41	39 57¾	birds
♀ —— 15	S 21¾ E	23¾	63 35	63 35	35 54	40 03	40 16	Many ice island
♄ —— 16	South	57	64 32	64 32	35 54	40 03	39 57	Many birds
☉ —— 17	S 2 W	124	66 36	66 34	35 44	39 53	39 19	Stopped by the ice
☽ —— 18	S 5 E	37 2	65 58	65 58	35 53	40 02	39 57	Many ice islands
♂ —— 19	N 15 E	97	64 24	64 29	36 49¾	40 58	40 45	Ditto
☿ —— 20	N 37 E	38	63 59	Cloudy	37 49¾	41 41	40 47	Ditto
♃ —— 21	N 29½ E	84	62 45	Cloudy	39 15	43 14	42 10¾	Ditto
♀ —— 22	N 41⅓ E	100	61 31	61 33¾	41 30	45 29	44 1	Ditto
♄ —— 23	N 45 E	131	60 0⅓	60 2	44 37¾	48 36	47 8	Ditto
☉ —— 24	N 45 E	138	58 24	58 23¾	47 48	51 47	50 20	Ditto
☽ —— 25	N 6¾ E	69	58 8	Cloudy	49 58	53 57	52 30	Ditto
♂ —— 26	North	46	57 22	Cloudy	49 58	53 57	50 49¾	Ditto
☿ —— 27	N 17 E	56	56 28	56 29¾	50 27	51 55	52 18¾	Ditto
♃ —— 28	N 18 E	124	54 32	54 32	51 33¼	53 01	53 12¾	Ditto
♀ —— 29	N 17¾ E	130	52 29	52 27¾	52 36	54 04	54 15¾	Ditto
♄ —— 30	N 45 E	107	51 30	Cloudy	53 54	55 22	55 33¾	Ditto
☉ —— 31	N 36¾ E	52	50 48	50 48	54 43¾	56 11¾	58 30¾	
☽ Feb 1	N 12 E	127	49 44	Cloudy	55 27¾	56 55	59 24¾	
♂ —— 2	N 80 E	71	48 28	48 32	57 35¾	59 3	61 34¾	Much sea weed and
☿ —— 3	S 40⅓ E	17¾	48 45	48 44¾	57 51¾	59 19	62 15¾	many divers
♃ —— 4	S 63⅓ E	78	49 17	49 15	55 51¾	57 39	61 8¾	
♀ —— 5	N 68⅓ W	18½	49 3	49 4	55 9¾	60 14	60 27¾	A N W swell
♄ —— 6	N 5 E	67	47 58	48 0	55 17¾	60 22¾	60 35¾	
☉ —— 7	S 68¾ E	145	48 53	48 53	58 38¾	63 6	63 48¾	
☽ —— 8	S 45 E	114¾	50 14	Cloudy	60 43¾	65 11	65 53¾	Lost the Resolution

1773.	Course. °	Dist. Miles.	Latitude South by Account. ° ′	Latitude South by Observat. ° ′	Longitude East by Account. ° ′	Longitude East by Observat. ° ′	Longitude East by No. 1. ° ′	Remarks.
♂ Feb. 9.	S. 66 E.	10	50 20	50 18	60 59¼	65 27	66 9¼	Many penguins.
☿ —— 10.	N. 35¼ E.	31	49 54	49 53	61 27¼	65 56	67 11¼	Seals and birds.
♃ —— 11.	S. 21 E.	29	50 22	50 18	61 42$\frac{3}{10}$	66 11	67 30¼	Red-headed pen-
♀ —— 12.	S. 78⅓ E.	11.4	50 41	50 41	64 38¼	69 6¼	70 24¼	guins.
♄ —— 13.	S. 78¾ E.	121	51 5	Cloudy.	67 47¼	72 7	72 36¼	
☉ —— 14.	S 75⅓ E.	132	51 41	51 39½	71 16⅞	75 35	76 23¼	Seals, whales & birds
☽ —— 15.	S. 76 E.	138	52 14	52 13	75 0¼	79 18	82 1¼	Ditto and porpoises.
♂ —— 16.	S. 76⅓ E.	78	52 32	Cloudy.	77 04¼	81 22	82 18¼	
☿ —— 17.	S. 79¼ E.	143	52 55	52 56	80 52¼	85 10	86 6¼	
♃ —— 18.	N. 88¼ E.	144	52 51	52 52⅔	84 51¼	88 52	89 38¼	Sea-weed.
♀ —— 19.	N. 83⅓ E.	148	52 35	52 35	88 58¼	93 0	93 47¼	
♄ —— 20.	N. 82 E.	146	52 16	52 16	92 53¼	96 55	97 48	Sea-weed.
☉ —— 21.	East.	108	52 16	52 14	95 49¼	99 51	101 5¼	
☽ —— 22.	S. 72¼ E.	46	52 28	Cloudy.	97 40	101 42¼	102 57	Saw one ice isle.
♂ —— 23.	N. 80¾ E.	97½	52 13	52 17⅕	100 17	104 16¾	104 58¼	Sea-weed.
☿ —— 24.	N. 83⅘ E.	89	52 8½	52 7	102 49¼	106 49	107 46¼	
♃ —— 25.	N. 78⅓ E.	128	51 40½	51 41⅓	106 16¼	110 16	111 28¼	
♀ —— 26.	N. 81¼ E.	147	51 18	Cloudy.	109 52¼	114 2	115 19¼	
♄ —— 27.	N. 78 E.	150	50 47	Cloudy.	113 59¼	117 59	119 16¼	
☉ —— 28.	N. 81 E.	150	50 24	50 24	117 59¼	121 49	123 9¼	Rock-weed.
☽ March 1.	N. 53¼ E.	134	49 04	49 02	120 51¼	124 41	126 1¼	
♂ —— 2.	N. 52¼ E.	150	47 29	Cloudy.	123 51¼	127 41	129 1¼	Log 48 feet to 29″¼.
☿ —— 3.	N. 56 E.	128	46 18	Cloudy.	126 25¼	130 15	132 10¼	Sea-weed, and the
♃ —— 4.	N. 42½ E.	121	44 48	44 48¼	128 25¼	132 15	134 20¼	water discoloured.
♀ —— 5.	N. 67¾ E.	123	44 04	44 3⅓	131 0¼	136 10	137 17¼	
♄ —— 6.	N. 88⅓ E.	144	43 58	43 47½	134 20¼	139 30	141 0¼	
☉ —— 7.	N. 84⅓ E.	94½	43 47	43 46⅓	136 30¼	141 40	143 08¼	
☽ —— 8.	N. 87 E.	110	43 41	43 40¾	139 02¼	144 37	145 27¼	
♂ —— 9.	East.	69.6	43 43	43 45⅔	140 39¼	145 07	147 03¼	Saw land.
	Mew Stone, off Van Dieman's Land			43 48		146 27		
	The South West Point of Van Dieman's Land			43 38		145 55		
	The South East Point of Van Dieman's Land			43 38		146 59		
	Adventure's Bay, in Van Dieman's Land			43 23		147 30		
☿ —— 10.	N. 76¼ E.	36	43 40	43 40	141 25¼	147 20	147 57½	
♃ —— 11.	N. 58⅓ E.	26	43 26	43 23	141 55¼	147 30	148 46¼	
♂ —— 16.	N. 71 E.	38	43 07½	43 08	148 19	148 26	149 33¼	
☿ —— 17.	N. 11 E.	85½	41 44	41 44	147 56¼	148 11½	149 41¼	
♃ —— 18.	North.	82	40 22	40 21¼	147 56	148 08	150 02¼	
♀ —— 19.	N. 17¾ E.	63	39 21	39 21	148 22	148 33¼	150 19¼	
♄ —— 20.	East.	77	39 22	39 22⅓	150 01	150 13	152 0¼	
☉ —— 21	N. 85½ E.	69½	39 16½	39 16⅓	151 43	151 43	153 30¼	
☽ —— 22	S. 78⅓ E.	69	39 28¼	Cloudy.	152 47	152 58	154 47¼	
♂ —— 23	N. 73½ E.	70	39 8¼	Cloudy.	154 14	154 25	156 14¼	

1773	Course.	Dist. Miles	Latitude South by Account	Latitude South by Observat.	Longitude East by Account	Longitude East by Observat. °	Longitude East by No. 1 °	Remarks
☿ March 24	N 79 E	58	39 59	38 57½	155 26¼	155 37	157 12¼	
♃ —— 25	S 75¼ E	95	39 21	39 20½	157 26¼	157 37½	159 04¼	
♀ —— 26	S 65 E	108	40 06	40 6½	159 33	159 44	161 02¼	
♄ —— 27	S 83 E	65 5	40 14	40 14½	160 55	161 06	162 31¼	
☉ —— 28	East	20	40 15	40 15⅓	161 21	161 32	163 12¼	
☽ —— 29	S 64¼ E	61	40 42	40 42	162 33	163 07	164 35¼	
♂ —— 30	S 72 E	100	41 13	41 13	164 39	164 49	166 35¼	
☿ —— 31	S 77 E	90	41 33	41 33	166 37	166 47	168 34¼	
♃ April 1	N 89 E	80	41 31	41 30 9/10	168 25	168 35	170 22¼	Ship S of account
♀ —— 2	N 82 E	97	41 17	Cloudy	170 35	170 45	172 32¼	
	Cape Farewell, in New Zealand			40 38½		172 11¼		
♄ —— 3	N 50¾ E	57	40 41	40 40	171 35	171 45	173 46¼	
☉ —— 4	N 66 E	59½	40 16	40 16	172 45	173 15	175 13¼	
☽ —— 5	S 41¼ E	48	40 52	40 52½	173 27	174 07	175 57½	
♂ —— 6				41 3⅔				
	Queen Charlotte's Sound in New Zealand			41 5⅓		173 55		
	Cape Palliser, in New Zealand			41 35		175 0		
☽ June 7		7	41 3½	41 3½	174 01	174 01	174 01	
♂ —— 8	S 39¾ E	65	41 53½	41 53½	174 51	174 51	174 51	
☿ —— 9	S 54 E	99	42 51½	42 50	176 49	176 49	176 49	
♃ —— 10	S 56½ E	115	43 55½	43 57½	179 7½	179 26	179 16	
♀ —— 11	S 56¼ E	87	44 45	Cloudy	180 47	181 06	181 06	
♄ —— 12	S 62¼ E	129	45 46	Cloudy	183 30	183 49	183 49	
☉ —— 13	S 25 E	47½	46 29	Cloudy	184 0	184 7½	184 31½	A N W swell
☽ —— 14	S 69½ E	45	46 46	46 43½	185 07	185 14½	185 30½	
♂ —— 15	East	37	46 44	46 45½	186 01	186 08	186 24	A N E swell
☿ —— 16	S 24½ E	41	47 26	Cloudy	186 25	186 32	186 48	Ditto
♃ —— 17	N E	58	46 28	46 19½	186 25	186 32	186 48	Ditto
♀ —— 18	N 71¾ E	96½	45 49	45 49½	188 37	188 44	188 11	Ditto
♄ —— 19	N 66 E	91	45 11	45 12½	190 39	190 46	189 55½	Sea-weed
☉ —— 20	N 69½ E	119	44 31	44 30	193 18	193 25	192 34	Log 45½ f to 29″½
☽ —— 21	N 78½ E	64	44 18	44 17	194 45	194 52	194 6½	Log 48 feet to 29″½
♂ —— 22	S 78 E	68 9	44 31	44 32½	196 25	196 32	195 50	
☿ —— 23	S 84⅓ E	55	44 37	44 36½	197 42	197 49	197 13½	
♃ —— 24	N 6½ E	56	43 42	Cloudy	197 45	197 52	197 17	
♀ —— 25	N 28 W	33	43 13	Cloudy	197 23	197 30	196 55	
♄ —— 26	N 7½ W	9	43 05	43 05½	197 13	196 40	196 34	
☉ —— 27	North.	42	42 25	42 23½	197 13½	196 30	196 34	
☽ —— 28	East.	41	42 24	42 23½	198 09½	198 04	197 46	
♂ —— 29	S 48½ E	33	42 46	42 45½	198 44	199 0	198 24	Many whales and birds
☿ —— 30.	S 77 E	62	43 0	42 59½	200 09	200 25	199 36	
♃ July 1	S 85½ E	84	43 06	43 05½	202 03	202 19	201 16	
♀ —— 2	N 85½ E	65	43 0	42 59½	203 32	203 48	202 56	
♄ —— 3	S 76 E	58	43 14	43 13½	204 52	205 03	204 23	

1773.	Courſe.	Diſt.	Latitude South by Account.		Latitude South by Obſervat.		Longitude Eaſt by Account.		Longitude Eaſt by Obſervat.		Longitude Eaſt by No. 1.		Remarks.
	°	Miles.	°	′	°	′	°	′	°	′	°	′	
☉ July 4.	S. 40 E.	56	43	56	43	57¼	205	42	205	54	205	10	
☽ —— 5.	N. 71½ E.	104	43	24	Cloudy.		207	57	208	09	205	01	
♂ —— 6.	N. 20½ E.	84	42	05	42	05	208	37	208	17	208	07	
☿ —— 7.	N. 36¼ E.	60	41	17	41	17½	209	25	209	05	209	0	
♃ —— 8.	S. 62 E.	90	41	59¼	51	57	211	8	210	49	210	52	
♀ —— 9.	S. 62¼ E.	88	42	38	42	38⅛	212	52	212	33	212	57	Log 48 feet to 29″½.
♄ —— 10.	S. 62¼ E.	130	43	38	43	38⅕	215	27	215	36	215	46	A Weſtern ſwell.
☉ —— 11.	N. 85¼ E.	93	43	30	43	30¼	217	39	217	23	217	58½	
☽ —— 12.	N. 78¼ E.	82	43	13	43	13¼	219	31	219	19	299	50	
♂ —— 13.	N. 71 E.	46	42	58	42	57⅓	220	32	220	20	220	56	
☿ —— 14	N. 82 E.	54	42	50	Cloudy.		221	44	221	32	222	08	
♃ —— 15	N. 24⅕ W.	18¼	42	33	Cloudy.		221	35	321	23	221	59	
♀ —— 16	N. 47 E.	102½	41	22½	41	23	223	12½	223	0½	223	55	
♄ —— 17	N. 43⅔ E.	138	39	42	39	42½	225	15	225	04	226	22	A S. W. ſwell.
☉ —— 18.	N. 10⅗ E.	113	37	51	37	51⅗	225	40	225	29	226	36	Swell from the South.
☽ —— 19	N. 5½ E.	81.3	36	30	36	31	225	50	225	39	226	55	Log 48 feet to 29″½.
♂ —— 20.	N. 2½ W.	71	35	19	35	19½	225	47	225	36	226	48¼	
☿ —— 21.	N. 9¼ W.	154	34	27	Cloudy.		225	19	225	08	226	20	
♃ —— 22	N. 15½ W.	108	31	03	31	03⅕	224	46	224	35	225	34	Log 48 feet to 29″½.
♀ —— 23.	N. 11⅕ W.	104	29	21	29	21⅕	224	24	224	13	225	19	
♄ —— 24.	S. 73¼ W.	75	29	43	Cloudy.		223	0	222	49	223	55	
☉ —— 25.	S. 86 W.	44¼	29	46	29	46	222	16	222	05	223	11	
☽ —— 26.	N. 41 E.	70	28	53	28	53⅕	223	09	224	14	224	09	
♂ —— 27.	N. 10¼ W.	59	27	55	27	55½	223	20	225	14	225	10	
☿ —— 28.	N. 67½ W.	33	27	42	27	42⅕	222	57	224	39	224	58	
♃ —— 29.	N. 71½ W.	41¼	27	29	27	29½	222	13	223	42	224	0	
♀ —— 30	N. 64¼ E.	58	27	03	27	03½	223	15	224	44	225	17	Tropic birds.
♄ —— 31.	N. 26 E.	48	26	20	26	19¼	223	40	225	09	275	46½	Ditto.
☉ Aug. 1.	N. 33¼ E.	82	25	10	25	11	224	48	225	57	226	34	
☽ —— 2.	N. 6¼ E.	118	23	14	23	14⅕	224	42	226	11	126	44	Ship N. E. of account.
♂ —— 3	N. 14¼ E.	65	22	11	22	10¼	224	59	226	59	227	07	Many tropic birds.
☿ —— 4.	N. 10¼ E.	49	21	21½	21	22⅕	225	08	227	10	227	15	Ship N. E. of account.
♃ —— 5.	N. 49¼ E.	66	20	38	20	39¼	226	03	227	50½	228	32	
♀ —— 6	N. 33½ E.	65	19	44	19	44¼	226	43	228	35	229	27	
♄ —— 7.	N. 53⅕ W.	85	18	53	18	51⅞	225	29	227	21	228	13	
☉ —— 8.	N. 72⅕ W.	148	18	06	18	04⅕	222	55	224	47	225	35	Log 48 feet to 29″½.
☽ —— 9.	N. 79 W.	116	17	42	17	41⅕	220	51	222	33	223	30	
♂ —— 10.	N. 81⅕ W.	118	17	23	17	23⅓	218	47	220	32	221	26	
	A low iſland ſeen this day.				17	24			218	53			
☿ —— 11.	N. 86½ W.	117	17	16	17	16⅗	216	44	218	29	219	29	
	A low iſland ſeen to-day.				17	6			216	34			
♃ —— 12.	N. 86¼ W.	98	17	10	17	9¼	215	02	216	10	217	54	
	Another low iſland.				17	4			215	31			
♀ —— 13.	S. 86¼ W.	75	17	15	17	14¼	213	43½	215	11	216	46	
♄ —— 14.	S. 88½ W.	110	17	17	17	17½	211	48	212	50	215	08	

1773	Course	Dist.	Latitude South by Account	Latitude South by Observ'd	Longitude East by Account	Longitude East by Observation	Longitude East by No. 1	Remarks
	°	Miles	° ′	° ′		° ′		
	Osnaburg Island			17 49½		211 47		
☉ Aug. 15	S 74 W	106	17 46	17 46½	210 03	211 05	213 28	
☽ —— 16	West	44		17 46	209 17	210 42	212 40	
	Oaitipeha Bay, in Otaheite			17 45		210 36½		
	Point Venus, in Otaheite			17 29½		210 27½		
♃ Sept. 2	N 57 W	50		16 59½	209 38½			
	Owharre Bay, in Huaheine			16 45		209 0		
	Ohamaneno Harbour, in Ulietea			16 45½		208 34$\frac{9}{10}$		
♀ —— 17				16 50½	208 11	208 11	208 03	
♄ —— 18	S 68½ W	71	17 16	17 15$\frac{7}{8}$	207 02	207 02	206 43	
☉ —— 19	S 69½ W	67	17 40	17 39$\frac{1}{2}$	205 54	205 54	205 30	
☽ —— 20	S 70¼ W	62	18 01	18 01½	204 50	204 50	204 35	
♂ —— 21	S 65¾ W	53	18 22½	18 23½	204 0	204 25	203 39	
☿ —— 22	S 72½ W	51	18 39½	18 39½	203 06	203 31	202 44	
♃ —— 23	S 73½ W	93	19 05	19 5$\frac{7}{8}$	201 33	201 58	201 11	
	Hervey's Islands			19 16		201 50		
♀ —— 24	S 74¾ W	82	19 28	19 28	200 10	200 20	199 38	
♄ —— 25	S 79½ W	119	19 52	19 52½	198 06	197 40	197 38	
☉ —— 26	S 75½ W	128	20 24	20 25	195 52	195 26	195 43	
☽ —— 27	S 83½ W	129	20 38	20 39½	193 35½	193 09½	193 26½	Lop 48 feet to 29
♂ —— 28	S 80 W	146	21 04	21 03$\frac{7}{8}$	190 58$\frac{1}{10}$	190 32$\frac{1}{10}$	190 49$\frac{1}{10}$	
☿ —— 29	S 77½ W	110	21 28½	21 28½	189 01$\frac{1}{10}$	188 35$\frac{1}{10}$	189 40	
♃ —— 30	N 83 W	136	21 12	21 11$\frac{7}{8}$	186 35	186 09	187 15	
♀ Oct. 1	S 84½ W	83	21 20½	21 20½	185 06	184 40	185 59½	
	Anchoring Place of Tongataboo			21 4½		185 10		
♀ —— 8	S 11¼ W	58	22 01	22 01½	185 03	185 03	184 23	
♄ —— 9	S 52½ W	36	22 25	22 25½	185 36	185 28	184 54	
	Pylestaart Island			22 22½		184 25		
☉ —— 10	S 66½ W	50	22 45	22 45½	184 47	184 15	183 38	
☽ —— 11	S 42½ W	93	23 54	23 53½	183 39	183 0	182 32	Ship S. W. of Account
♂ —— 12	S 28 W	110	25 31	25 30½	182 42	181 43	181 31	Lop 48 feet to 5
☿ —— 13	S 2½ W	110	27 11	27 11½	181 55	180 56	180 40	Many Albatrosses
♃ —— 14	S 22½ W	97	28 42	Cloudy	181 13	180 14	180 0	
♀ —— 15	S 14 W	96	30 15	30 15½	180 46	179 47	179 25	Many Albatrosses
♄ —— 16	S 2½ W	84	31 38	31 38½	180 44	179 45	179 23	Many Porpoises
☉ —— 17	S 10½ E	67	32 43	32 43½	180 57	179 58	179 27	
☽ —— 18	S 6½ E	65	33 47	33 47½	181 05	180 05	179 34½	
♂ —— 19	S 5½ E	128½	35 54	35 54½	181 21	180 21	179 50½	
☿ —— 20	S 6½ W	111½	37 45	37 44½	181 06	179 45	179 30	
♃ —— 21	S 24½ W	90	39 06	39 06½	180 19	178 26	178 10	Saw N. Zealand
♀ —— 22	S 53½ W	114	40 15	40 15½	178 20	176 30	176 31	
♄ —— 23	S 28½ W	44	40 53	40 53½	177 56	176 05	176 14	
☉ —— 24	S 36 W	47	41 31	41 31	177 19	175 28	175 40	
☽ —— 25	S 30 W	52	42 16	42 16	176 49	174 58	175 10	
♂ —— 26	S 36 W	21	42 33	42 32½	176 38	174 42	174 48	

1773.	Courſe.	Diſt.	Latitude South by Account.	Latitude South by Obſervat.	Longitude Eaſt by Account.	Longitude Eaſt by Obſervat.	Longitude Eaſt by No. 1.	Remarks.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	
☿ Oct. 27.	S. 22⅓ W.	17	42 17	42 17⅘	176 29	174 33	174 39	
♃ —— 28.	Eaſt.	27	42 18	42 18⅓	177 06	175 10	174 50	
♀ —— 29.	N. 31¼ E.	32.6	41 50	41 50⅓	177 29	175 33	175 0	
♄ —— 30.	S. 45 W.	4	41 53	41 53⅘	177 25	175 29	174 56	
☉ —— 31.	S. 12¾ E.	40	42 32	42 32	177 37	175 41	175 08	
☽ Nov. 1.	S. 8¾ E.	20¾	42 52	Cloudy.	177 41	175 45	175 12	
♂ —— 2.	N. 7¾ E.	65¾	41 37	41 37⅘	177 56	176 0	175 06	
☿ —— 3.	N. 52¾ W.	28	41 20	41 20¼	177 26	175 30	175 04	
♃ —— 4.	S. 53⅘ W.	21	41 36	41 36	176 56	175 0	174 05	
♀ —— 5.	S. 34¾ E.	19	41 49	Cloudy.	177 05	175 09	174 14	
♄ —— 6	N. 61⅞ E.	25.8	41 37	41 37½	177 53	175 57	175 02	
☉ —— 7.	N. 30¾ E.	135	39 41	39 41⅙	179 21	177 25	176 30	
☽ —— 8.	N. 21¾ E.	41	39 03	39 01⅓	179 47	177 51	176 56	
♂ —— 9.					179 36	177 40		
	Tolaga Bay, New Zealand.			38 21½		178 33¾		
♂ —— 16.				38 31½	178 37½	178 37½	177 02½	
☿ —— 17.	S. 20¾ W.	75	39 43	39 42	178 07½	178 07½	176 27	
♃ —— 18.	S. 45 W.	24	39 59	39 59	177 45	177 44½	176 08	
♀ —— 19.	S. 39 W.	48	40 38½	40 39⅙	177 09	177 08½	175 32	
♄ —— 20.	S. 48⅓ W.	36	41 03	41 02⅞	176 33	176 18	175 02	
☉ —— 21.	S. 89½ W.	22	41 05	41 05	176 08	175 53	174 37	
☽ —— 22.	Eaſt.	17	41 04	41 04¾	176 32	176 25	175 37	
♂ —— 23.	N. 67⅓ W.	20	40 54	40 54⅙	176 08	175 53	175 07	
☿ —— 24.	S. 36½ W.	52	41 36	41 36¼	175 28	175 13	174 27	
♃ —— 25.							173 30	
♀ —— 26.							173 21	
♄ —— 27.				41 57¾				
☉ —— 28.								
☽ —— 29				42 06⅙			173 22	
	Queen Charlotte's Sound.			41 5⅓		174 7¼		
♃ Dec. 23				42 25⅛	175 10	175 10	175 13	
♀ —— 24.	S. 12¾ W.	36	43 0	43 0⅓	175 0	175 0	175 0	Log 48 feet to 29″½.
♄ —— 25.	S. 22⅔ E.	107	44 39	44 39	175 56	175 56	175 59	Many grampuſſes.
☉ —— 26.	S. 34⅔ E.	79	45 44	45 42⅞	176 59	176 59	176 57	Many ſeals.
☽ —— 27.	S. 36¼ E.	52½	46 25	Cloudy.	177 44	177 44	177 42½	Many birds.
♂ —— 28.	S. 39⅓ E.	52	47 06	Cloudy.	178 32½	178 32½	178 31	Many birds and ſeals.
☿ —— 29.	S. 16¾ E.	64	48 07	48 07⅓	178 57½	178 57½	178 51	The ſhip S. E. of Acc.
♃ —— 30.	S. 17 E.	90	49 33	Cloudy.	179 37	179 37	179 31	Pengwins, drift-wood, rock-weed, and ſeals.
♀ —— 31.	S. 8 E.	64	50 36	Cloudy.	179 50	179 50	179 44	
1774.								
♄ Jan. 1.	S. 70⅓ E.	36	50 48	50 56⅞	180 44	180 44	180 55¾	Ship S. of Acc.
☉ —— 2.	S. 65⅓ E.	97	51 38	51 36⅔	183 01	183 01	183 12	Log 48 feet to 29″½.
☽ —— 3.	S. 50⅔ E.	148	53 11	Cloudy.	186 8½	186 8½	186 19½	Saw ſeals.
♂ —— 4.	S. 50⅔ E.	142	54 41	Cloudy.	189 15½	189 15½	189 26½	
☿ —— 5	S. 64¾ E.	121	55 29	55 28¾	192 27½	192 54	192 42	Whales.
♃ —— 6.	S. 62 E.	124	56 27	Cloudy.	195 41	196 07½	195 55½	Saw rock-weed.
♀ —— 7.	S. 76 E.	122	56 56	Cloudy.	199 19	199 42½	199 30½	

1774.			Course			Dist.	Latitude South by		Longitude East by			Remarks
						Mil.	Account	Observat.	Account	Observation	[illegible]	
♄	Jan.	8	S	84	E	91	57 6	57 5	202 06	202 12	02 47	
☉	——	9	S	77½	E	101	57 29	57 28	205 25	06 01	06 06	Many whales and birds
☽	——	10	S	75	E	94	57 56	Cloudy	208 11	06 18	206 5[illegible]	
♂	——	11	S	79½	E	124	58 18	58 18	21[illegible] 10	12 40	12 51	Three Ice Islands
☿	——	12	S	74½	E	86	58 40	58 40½	214 43	215 20	21[illegible] 5	Several Ice Island
♃	——	13	S	83	E	41	58 45	58 45	16 [illegible]	216 39	217 16	Ditto
♀	——	14		Drift		37	58 46	Cloudy	217 15	217 50	18 27	
♄	——	15	S	86½	E	123	58 40	58 46½	221 11	221 48	223 02	
☉	——	16	S	89	E	120	58 50	58 50½	225 03	225 40	226 51	Much ice
☽	——	17	S	82½	E	118	59 05	59 5½	228 54	229 31	23[illegible] 08	Log 45 to 29 [illegible]
♂	——	18	S	87½	E	155	59 11	59 11	234 0	234 37	37 29	Saw rock weed
☿	——	19	S	84¼	E	1[illegible]6	59 26	59 24½	238 26	241 03	41 43	A western swell
♃	——	20	S	78½	E	140	59 5	59 52	243 0	245 39	246 17	
♀	——	21	S	68	E	41	60 0[illegible]	60 09½	244 26	247 20	248 05	A N W swell
♄	——	22	N	56	E	66	59 31	59 31	246 13	249 07	250 06	A S W swell
☉	——	23	N	79½	E	86	59 15	59 15	249 0	251 51	252 54	Ditto
☽	——	24	S	81	E	106	59 33	59 33	25[illegible] 32	255 [illegible]6	257 [illegible]2	Ditto
♂	——	25	S	69½	E	150	60 1	Cloudy	56 36	59 30	261 06	Many birds
☿	——	26	S	74	E	108	60 48	Cloudy	260 08	263 02	264 3[illegible]	
♃	——	27	S	77	E	110	61 13	Cloudy	265 51	266 45	268 16	A N W swell
♀	——	28	S	74	E	120	61 34	61 34½	267 26	270 50	73 49	Ditto
♄	——	29	S	87½	E	134	61 50	61 50	272 40	275 54	278 31	Ditto
☉	——	30	N	83½	E	116	61 34	61 34	277 46	280 40	284 03	Porpoises and birds
☽	——	31	N	86	E	130	61 20	Cloudy	82 17	288 17	289 17	Ditto
♂	Feb.	1	N	82	E	110	61 10	61 10	208 04	92 04	292 21	A westerly swell
☿	——	2	N	79	E	130	60 4[illegible]	60 44	290 28	296 28	298 1[illegible]	Ditto
♃	——	3	N	86	E	145	60 36	60 36	95 1	302 47	303 17	Ditto
♀	——	4	N	86	E	126	60 32	Cloudy	99 40	307 06	307 36	Birds innumerable
♄	——	5	N	8[illegible]	E	110	60 18	Cloudy	303 32	310 58	311 [illegible]	A N W swell
☉	——	6	N	70½	E	42	60 04	Cloudy	304 53	312 19	312 49	Many Ice Islands
☽	——	7	N	35½	E	57	59 17	59 17	305 58	313 24	314 54	Many birds. Ice
♂	——	8	N	52½	E	70	58 30	58 30	307 54	315 0	317 20	The westerly swell continues
☿	——	9	N	5[illegible]½	E	118	57 20	57 20	310 5[illegible] 7	318 18 7	320 18 [illegible]	
♃	——	10	N	68	E	60	56 53	56 5[illegible]	312 37 1	320 03 1	322 03	Many Penguins
♀	——	11	N	6[illegible]	E	54	56 [illegible]	Cloudy	314 58 2	322 [illegible]4 2	324 24 1	Red headed Peng.
♄	——	12	N	41	E	71	55 8	Cloudy	316 21 7	323 17 7	325 47 6	Birds
☉	——	13	N	56	E	90	54 38	Cloudy	318 30 7	325 57 7	327 56 6	Yet a westerly swell
☽	——	14	N	77	E	71	54 2[illegible]	Cloudy	320 [illegible] 2	327 59 [illegible]	329 59 1	Many seals. Ice
♂	——	15	N	84	E	106	54 11	Cloudy	323 33	330 59	332 59	Some seals
☿	——	16	N	79	E	46	54 02	54 02	324 50 2	332 16 2	336 9	No westerly swell
♃	——	17	S	85½	E	99	54 10	Cloudy	327 38	335 04	338 57	[illegible]
♀	——	18		Drift		46	54 12	54 12	328 57	336 [illegible]3	340 16	Swell from the N
♄	——	19	N	78½	E	60	54 0	54 0	330 38	338 04	341 57	Swell from N N W
☉	——	20	N	66½	E	93	53 20	53 20	333 01	340 27	343 56	Sea weeds birds and [illegible]
☽	——	21	S	[illegible]½	E	108	53 24	53 23½	336 02 3	313 28	346 50	Seals [illegible]
♂	——	22	N	54½	E	92	53 11	53 11½	338 34	349 37	349 3[illegible]	S W swell. Ice

1774.	Course.	Dist.	Latitude South by		Longitude East by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
	°	Miles.	° ′	° ′	° ′	° ′	° ′	
☿ Feb. 23.	N. 86 E.	107	53 04	Cloudy.	341 31	352 34	352 29½	A Western swell: ice.
♃ —— 24.	N. 80½ E.	101	52 46	52 46¼	344 19	355 22	355 43	Ditto.
♀ —— 25.	S. 74⅔ E.	109.8	53 16	53 16	347 14	358 17	358 38	Ditto.
♄ —— 26.	S. 79¼ E.	100	53 35	Cloudy.	349 58	0 03	1 09	Ditto.

Having made a complete revolution round the Globe, Mr. Bayley here rejected 360°, and repeated ♄, February 26, to make his day correspond with the day at Greenwich.

1774.	Course.	Dist.	Lat. Account.	Lat. Observat.	Long. Account.	Long. Observat.	No. 1.	Remarks.
♄ —— 26.	N. 85¼ E.	110	53 27	53 27	353 3	3 08	4 09½	Porpoises and ice.
☉ —— 27.	S. 71¼ E.	86	53 54	53 53½	355 22	5 27	6 28½	Penguins and ice.
☽ —— 28.	S. 58½ E.	19	54 03	Cloudy.	355 48	5 52½	6 54	Several ice islands.
♂ March 1.	N. 73 E.	67	53 44	Cloudy.	357 36	7 41	9 19	Seals and birds.
☿ —— 2.	S. 75¼ E.	79	54 04	54 04½	359 46	9 51	11 28	Ice.
♃ —— 3.	N. 52 E.	76	53 17	53 17¼	1 27	11 40	13 20	Whales and porpoises.
♀ —— 4.	N. 8½ W.	36¼	52 42	Cloudy.	1 18	11 31	13 11	A Western swell yet.
♄ —— 5.	N. 19¼ E.	124	50 45	50 44½	2 26	12 39	14 44	Ship N. E. of acct.
☉ —— 6.	N. 56¼ E.	88	49 55	Cloudy.	4 17	14 30	16 35	Many porpoises.
☽ —— 7.	N. 4½ E.	83	48 32	48 32½	4 26	14 01½	16 48	Ice and sea-weed.
♂ —— 8.	N. 15 W.	57	47 36½	47 36¼	4 03	13 52	16 40	Some ice islands.
☿ —— 9.	N. 12 E.	119	45 41	Cloudy.	4 39	14 27½	17 12½	
♃ —— 10.	N. 8 E.	148	43 14	43 13¼	5 07	14 50	17 35	The Western swell yet.
♀ —— 11.	N. 15 W.	89	43 48	41 48½	4 36	14 19	17 04	
♄ —— 12.	N. 19 E.	33¼	41 16	Cloudy.	4 51	14 34	17 33	
☉ —— 13.	N. 19¼ E.	84	39 59	39 59	5 23	15 14	18 13	
☽ —— 14.	N. 13¼ E.	152	37 32	37 32½	6 07.7	16 04	18 56½	
♂ —— 15.	North.	121	35 32	35 31¼	6 07.7	16 47	18 54	
☿ —— 16.	N. 11½ E.	55¼	34 37	34 37½	6 21.3	16 51	19 14	Ship N. W. of acct.
♃ —— 17.	N. 63 E.	53	34 13	34 12¼	7 19.3	17 42	20 17½	
	Cape of Good Hope.			33 55½		18 22⅔		
☉ April 17.	N. 45 W.	60	33 13	33 12¼	17 31	17 31	17 29¼	
☽ —— 18.	N. 51½ W.	37	32 49	Cloudy.	16 54	16 54	16 52¼	
♂ —— 19	S. 70½ W.	46	33 4½	33 4½	16 07	16 07	16 12	Log 48 f. to 29″½.
☿ —— 20.	N. 3 E.	31	32 34	32 33½	16 09	16 07	16 14	
♃ —— 21.	N. 48½ W.	120	31 13	31 13½	14 22	14 22	14 23	
♀ —— 22.	N. 50¼ W.	90	30 16	30 16½	13 02	13 0	13 07	
♄ —— 23.	North.	60	29 15	29 14½	13 02	13 23½	13 08	Drift-wood.
☉ —— 24	N. 47 W.	133	27 44	27 44½	11 21	11 43	11 27	
☽ —— 25.	N. 51½ W.	146	26 13	26 13½	9 14	9 36	9 17	Ship N. W. of acct
♂ —— 26.	N. 39 W.	97	24 57	24 57½	8 05	8 28	8 04	
☿ —— 27.	N. 44 W.	97	23 48	23 47¼	6 49	7 12	6 30	
♃ —— 28.	N. 40½ W.	77	22 49	22 49½	5 56	6 19	5 42	
♀ —— 29.	N. 45 W.	79	21 53	21 53	4 55	5 18	4 17	Many porpoises and birds.
♄ —— 30.	N. 52 W.	51	21 21½	21 21½	4 11½	3 31.2	3 37	A Western swell.
☉ May 1.	N. 46 W.	43	20 51	20 51½	3 38½	2 40½	2 54	
☽ —— 2.	N. 43½ W.	40	20 22	20 22½	3 09	1 57	2 23½	
♂ —— 3.	N. 37 W.	63	19 32	19 32½	2 28	1 13	1 54	
☿ —— 4.	N. 70 W.	16	19 27	19 27½	2 12	0 50	1 42	
♃ —— 5.	N. 50½ W.	63	18 47	18 47½	1 21¼	0 0	0 55	Log 48 feet to 29″½.

1774	Course	Dist.	Latitude South by		Longitude East by			Remarks
		Miles	Account	Observ.	Account	Observ.	No. 1	
						West		
♀ May 6	N 49 W	101	17 41	17 41	0 02¾	1 29	0 3/	
					West		West	
♄ —— 7	N 51½ W	84	16 49	16 49¼	1 05¼	2 37	1 15	
☉ —— 8	N 44 W	84½	15 48	15 48¼	2 06¼	3 38	2 49	
☽ —— 9	N 45 W	84	14 49	Cloudy	3 07¼	4 54	4 05	
♂ —— 10	N 48¾ W	130	13 23	13 23¼	4 47¼	6 34 3	5 12	
☿ —— 11	N 48¾ W	123	12 02	12 02¼	6 21 7	8 08 5	7 19	Flying fish and dolphins
♃ —— 12	N 44 W	110	10 43	10 43	7 39 1	9 25 9	8 36	
♀ —— 13	N 46¼ W	128	9 14	9 14¼	9 13	10 59	10 06	
♄ —— 14	N 49¼ W	120	7 55	7 55¼	10 45	12 17	11 42 7	Log 48 f to 29 ¼
☉ —— 15	N 49¼ W	126	6 33	6 33¼	12 21	14 16	13 11	
☽ —— 16	N 47¼ W	117	5 14	5 14¼	13 47	15 46	14 40	
♂ —— 17	N 47¾ W	110	4 0	4 0¼	15 07	17 10	16 0	
☿ —— 18	N 44¼ W	118	2 35	2 35¼	16 29½	19 02	17 37	Ship S E of acct
♃ —— 19	N 26 W	108	0 58	0 58¾	17 16	19 50	18 44	
			North	North				
♀ —— 20	N 20 W	85	0 21	0 21¼	17 46	20 35	19 16	
♄ —— 21	N 22 W	68	1 24	1 24¾	18 12	21 0	20 21	
☉ —— 22	N 19 W	95	2 54	2 54¼	18 43	21 31	21 17	
☽ —— 23	N 22 W	76¼	4 05	4 05	19 12	22 0	21 55	Log 48 f to 29'
♂ —— 24	N 27 W	36	4 36	4 36¾	19 28	22 17	21 59	
☿ —— 25	North	50	5 27	5 27¼	19 28	22 17	21 50	Ship N of account
♃ —— 26	N 50 W	45	5 56	5 56	20 03	22 52	21 55	Swell from N E
♀ —— 27	N 84 W	30	5 59	5 59¼	20 33	24 34	21 59	Ship W of acct
♄ —— 28	N 45 W	31	6 21	6 21	20 54	24 55	22 14	Ship S W of acc
☉ —— 29	N 51 W	26	6 38	6 37¾	21 15	25 18	22 35	
☽ —— 30	N 80¼ E	18	6 41	Cloudy	20 57	25 0	22 47	
♂ —— 31	S 75¼ W	4	6 37	6 36¾	21 17	25 20	21 24	
☿ June 1	N 35 L	11	6 48	6 47⅞	21 07	24 57	21 18	
♃ —— 2	N 61¼ W	39	7 07	7 07¼	21 44	25 37½	21 19	
♀ —— 3	N 85 W	38	7 11	7 11	22 22	25 50	22 07	
♄ —— 4	N 58¾ W	54	7 39	7 39¼	23 08	26 45	22 54	
☉ —— 5	N 55 W	34 7	7 59	7 59¼	23 38	27 15	23 37	
☽ —— 6	N 69 W	41	8 14	8 14	24 17	27 54	24 0	
♂ —— 7	N 43½ W	84	9 15	9 14¾	25 15	28 51	25 08	
☿ —— 8	N 44 W	103	10 29	10 28¾	26 30	30 06	26 28	Ship N W of acct
♃ —— 9	N 39¼ W	106	11 51	11 51½	27 36	31 12	27 38	Ditto
♀ —— 10	N 42¼ W	117	13 18	13 18¼	28 56	32 31	28 59	Log 48 feet to 29
♄ —— 11	N 43 W	115	14 42	14 42	30 16	33 51	30 11	
☉ —— 12	N 25¼ W	112	16 23	16 23½	31 05	34 44	31 28	Log 48 f to 28¾
☽ —— 13	N 25 W	89	17 44	17 44½	31 44	35 37	32 21	
♂ —— 14	N 15 W	92	19 13	19 13½	32 09	36 16	32 29¾	
☿ —— 15	N 12¼ W	98	20 49	20 49¼	32 30	36 38	33 11	
♄ —— 16	N 21½ W	100	22 22	22 21⅞	33 10	37 29	33 56	
♀ —— 17	N 24¼ W	91	23 45	23 45¼	33 50½	38 23	34 47	
♄ —— 18	N 12 W	86	25 09	25 09½	34 10	39 09	35 09	Sea weed

1774.	Courſe. °	Diſt. Miles.	Latitude North by Account. ° ′	Latitude North by Obſervat. ° ′	Longitude Weſt by Account. ° ′	Longitude Weſt by Obſervat. ° ′	Longitude Weſt by No. 1. ° ′	Remarks.
☉ June 19.	N. 7¾ W.	85	26 33	26 33¼	34 21	39 11	35 20	Ship N. E. of Acc.
☽ —— 20.	N. 7 E.	87	28 0	28 0 1/10	34 11	38 58	35 06	Sea weed.
♂ —— 21.	N. 6 E.	78	29 17	29 17¼	34 02	39 24	35 37	Ship N. E. of Acc.
☿ —— 22.	N. 8 W.	99	30 55	30 55	34 18	39 36	35 24	
♃ —— 23.	N. 13½ W.	107	32 39	32 39⅔	34 46	40 04	35 38	Ship N. of Account.
♀ —— 24.	N. 12½ W.	106	24 23	24 23½	35 10	40 29	36 12	Ship N. E. of Acc.
♄ —— 25.	North.	93	35 56	35 56¼	35 10	40 29	36 02½	Log 50 feet to 29″.
☉ —— 26.	N. 12½ E.	78	37 12	37 11¾	34 52	40 21	35 54	Log 48 feet to 29″.
☽ —— 27.	N. 50⅕ E.	54	37 45	37 45⅗	34 03	39 32	35 06	Ship S. W. of Acc.
♂ —— 28.	N. 70 E.	24	37 53	37 53⅕	33 38	40 10	34 18	Ship S. E. of Acc.
☿ —— 29.	N. 36½ E.	58	38 40	38 40¼	32 54	39 40	33 36	Ship N. E. of Acc.
♃ —— 30.	N. 50½ E.	52	39 13	39 13	32 02	39 0	32 30	Ship S. W. of Acc.
♀ July 1.	N. 58¼ E.	100	40 06	40 06¼	30 11	37 24	30 40	Ship ditto.
♄ —— 2.	N. 53½ E.	75	40 50	40 51	28 42	35 55	29 10	
☉ —— 3.	N. 40¾ E.	51	41 32	41 32¼	27 53	35 02	27 42	
☽ —— 4.	N. 58 E.	134	42 44	42 44	25 19	32 32¼	25 06½	
♂ —— 5.	N. 53½ E.	135	44 01	44 01	22 43	29 56¾	22 39	Log 48 feet to 29″.
☿ —— 6.	N. 47½ E.	153	45 45	45 45	20 04	27 18	19 50	A W.S.W. ſwell.
♃ —— 7.	N. 58½ E.	161	47 10	47 10	16 44	23 58	16 27	Ditto.
♀ —— 8.	N. 67½ E.	141	48 05	48 05⅙	13 27	20 41	13 24	Ditto.
♄ —— 9	N. 61¼ W.	144	49 09	49 09	10 05	17 19	10 07¾	
☉ —— 10.	N. 84½ E.	134	49 22	49 21¼	6 41	13 55	6 41	
☽ —— 11.	N. 86½ E.	94	49 27	49 27½	4 17	11 31	4 07	Had ſoundings 80 fathom.
♂ —— 12.	N. 86¾ E.	137	49 35	49 35½	0 47.7 Eaſt.	8 01	0 05 Eaſt.	Log 48 feet to 29″.
♀ —— 13.	N. 79 E.	164	50 06	50 06⅓	1 53	5 20	2 50	Ram Head N. W. about 6 leagues.

*** In the preceding Journal, the Courſe and Diſtance; put down in the ſecond and third columns, are thoſe made good for the whole day; after variation of the compaſs, lee way, heave of the ſea, currents, &c. are allowed for, in the judgment of the navigator. The fourth and ſixth columns contain the Latitude and Longitude of the Ship deduced from that courſe and diſtance on the noon of the day mentioned in the firſt column; being the noon of the civil day, or that where the nautical day ends, and the aſtronomical one begins. The fourth column contains the Latitude obſerved at the ſame noon, and the ſeventh contains the Longitude of the Ship as carried on from the laſt lunar obſervation by means of the Log, or dead reckoning, as it is uſually called. It would, perhaps, in general, have been better to have carried it on by the Watch (No. 1.) but it may yet be done, by any perſon who wiſhes to have the Longitude of a particular place more correct, or corroborated by a greater number of obſervations, as the apparent times of moſt of the lunar obſervations were deduced from altitudes taken for the Watch. And it may here be obſerved, that the Longitude of any place, obtained by reducing a number of obſervations to that place by means of the Watch, will gene-

rally be had pretty true, notwithſtanding that the rate which the Watch was then going it may differ ſomething from that made uſe of; nay even if the rate of the Watch's going alter in that time, provided that all the obſervations made in an equal extent of time before and after making that land be uſed, and reduced ſeparately thereto and the mean of the two Longitudes thus obtained be made uſe of; as it may reaſonably be preſumed, that although the Watch's motion be not quite uniform, the acceleration or retardation of that motion will be nearly ſo, and of courſe cauſe no material error in a fortnight, during which interval ſeveral obſervations were generally got, at leaſt when they were near any lands, or where the exact ſituation of the Ship was of any conſequence The two laſt columns contain the Longitude of the Ship as deduced from the two Watches, No 1 and 2 ſo long as No 2 went with any tolerable degree of regularity afterwards, the laſt column is diſcontinued

METEOROLOGICAL OBSERVATIONS,

MADE

On Board His MAJESTY's Sloop ADVENTURE,

In her late Voyage on DISCOVERIES towards the SOUTH.

By Mr. WILLIAM BAYLEY.

1772.		Morn. Thermometer.	Noon. Latitude North. ° ′	Noon. Longitude West of Greenwich. ° ′	Noon. Barometer.	Noon. Thermom.	Even. Thermometer.	Winds.	Weather, &c.
♀	July 17.	67	46 26	7 41⅕	29,9	68	66	N. W.	Brisk wind and clear weather.
♄	—— 18.	68	46 46	8 2	29,87	69	65	S. W. by W.	Ditto, squally.
☉	—— 19.	65	45 20	8 46	29,9	64	65	N. W.	Moderate wind, and cloudy.
☽	—— 20.	65½	43 56	8 55	30,0	67	64½	W. N. W.	Brisk wind, with rain.
♂	—— 21.	63	43 29½	9 10	29,9	67	65	West. E. S. E.	Hazy weather.
☿	—— 22.	65	43 37⅕	9 32	30,0	66	65	N. W.	Moderate wind, and cloudy.
♃	—— 23.	67	42 16	11 28	30,08	68	66	North.	Brisk wind, and fine weather.
♀	—— 24.	66	40 3½	11 55	30,03	67	67	N. E.	Ditto.
♄	—— 25.	68	37 40⅕	13 33	30,15	70	68	Ditto.	Ditto, cloudy.
☉	—— 26.	70	35 31⅖	14 54	30,05	72	69	Ditto.	Moderate wind, ditto.
☽	—— 27.	69½	33 43	15 38	29,9	72½	71	Ditto.	Ditto.
♂	—— 28.	72	32 48	16 55	30,01	74½	73	North.	Ditto, fine weather.
☿	—— 29.	72	At Madeira.		29,88	75	73		Brisk wind, and squally.
♃	—— 30.	73			30,1	76	74	Variable.	Gentle breezes, with rain.
♀	—— 31.	74	32 33½	17 5	30,26	75½	74		Ditto.
♄	Aug. 1.	73			29,92	76	75		Ditto.
☉	—— 2	71	32 0⅕	16 29	29,69	73	72½	East.	Brisk wind, and squally weather.
☽	—— 3.	72	29 43½	16 52	29,8	73	72½	N. E.	Ditto, and fine weather.
♂	—— 4.	74	28 40⅕	18 3	29,77	73	73	N. E. by E.	Ditto, and cloudy.
☿	—— 5.	73	27 53⅙	18 26	29,87	73	72	N. E. S. W.	Moderate wind, and ditto.
♃	—— 6.	73	26 6½	19 2	30,0	73	72	E. by N.	Ditto.
♀	—— 7.	76	24 9	19 27	30,05	75	73	Ditto.	Ditto.
♄	—— 8.	74	22 10½	19 56	29,95	76	73	E. by S.	Brisk wind, ditto.
☉	—— 9.	74	20 8½	20 50½	29,6	75½	74½	N. N. E.	Moderate wind, and fine weath.
☽	—— 10.	74	18 10	22 11 30	30,0	77	77	Ditto.	Brisk wind, and cloudy.
♂	—— 11.	78½	16 12	22 50 30	29,9	83	78	Ditto.	Ditto.
☿	—— 12.	77	15 07	23 25	29,85	79	78	Ditto.	Moderate wind, ditto.
♃	—— 13.	78	14 54	23 29	29,9	78½	79	Ditto.	Brisk wind, with rain.
♀	—— 14.	79	14 54	23 29	30,0	81½	78½	Ditto.	Cloudy, with drizzling rain.
♄	—— 15.	79½	13 48	22 48	30,0	81	79	Ditto.	Ditto.
☉	—— 16.	78½	12 22	22 30	29,9	80	78	East.	Little wind, and cloudy.
☽	—— 17.	78½	11 50	21 57	29,95	81	80		Ditto, and drizzling rain.
♂	—— 18.	77	11 25⅖	21 21⅕	29,95	81	77	S. W.	Ditto, cloudy.
☿	—— 19.	79	10 47	20 52	30,0	77	77½	S. W. by W.	Ditto, heavy rain.
♃	—— 20.	76	9 34	20 41	29,95	78½	77½	N. W. by N.	Ditto.
♀	—— 21.	79	8 41⅕	20 6	29,9	78½	77½	East. S. W.	Squally, with rain.
♄	—— 22.	79	7 55	19 16	29,9	79	79	Ditto.	Brisk wind, and cloudy.
☉	—— 23.	80½	6 53½	18 24	30,05	80	78	Ditto.	Ditto.
☽	—— 24.	79	6 24½	17 18	29,9	79	78	S. by W.	Moderate wind, and cloudy.
♂	—— 25.	78½	5 53½	16 32	29,95	79½	79	S. W. by S.	Ditto, and fine weather.
☿	—— 26.	78½	5 10	15 37	29,95	78½	78	S. W.	Ditto, with rain.
♃	—— 27.	78	4 13¾	14 48	29,9	78½	78	S. W. by S.	Brisk wind, and cloudy.

1772			Morn Thermometer	Noon Latitude North	Noon Longitude West of Greenwich	Noon Barometer	Noon Thermom	Even Thermometer	Winds.	Weather
♀	Aug	28	78	3 40¼	13 41	29,85	77	78	S S W	Brisk wind, and cloudy
♄	——	29	77	3 15¼	12 44$_{r}$	29 8	78	76	Ditto	Moderate, and fair weather
☉	——	30	78$_{2}$	2 40¼	11 38	29,75	78	77	Ditto	Ditto
☽	——	31	78	2 40	10 36$_{2}$	29,95	79	77	S by W	Ditto, and cloudy
♂	Sept	1	78$_{r}$	1 59	5 46$_{r}$	29,95	78¼	78	South	Little wind, and fine weather
☿	——	2	77	1 24	6 34$_{r}$	29,95	78	78	Ditto	Ditto
♃	——	3	77	1 01	8 32	29,8	77¼	77¼	S by W	Ditto, and cloudy
♀	——	4	74	0 51	9 31	29,95	77	76	South	Brisk wind, and fine weather
♄	——	5	76	0 56	9 42	29,95	77¼	76¼	S W	Little wind ditto
☉	——	6	77	0 36	9 21	29,8	77¼	76	Ditto.	Moderate wind, and cloudy
☽	——	7	76	0 23	8 44	29,9	76	75	S by W	Ditto
				South						
♂	——	8	76	0 18	9 46	30,0	76¼	74¼	S by E	Ditto
☿	——	9	75	0 55	10 39	29,8	76¼	75	Ditto	Ditto, and fine weather
♃	——	10	74	1 57$_{r}$	11 16	30 0	77	73	S S E	Ditto, and cloudy
♀	——	11	74	2 59,	11 54	30,0	76	73	Ditto	Ditto
♄	——	12	73	4 10	12 46	30,0	75	72¼	S E.	Ditto
☉	——	13	73	5 5	13 34	30,05	75	73	S by E	Ditto
☽	——	14	73	6 29	14 27	29,9	75	73	S S E.	Ditto, and fine weather
♂	——	15	72	8 10	15 06	29,8	76	72¼	S E	Ditto
☿	——	16	73	9 36	15 41^{1}	29 75	74¼	73	Ditto	
♃	——	17	73	11 0	16 28	30,05	73¼	73	Ditto	Squally weather
♀	——	18	72$_{2}$	12 26	17 38^{1}	30,1	74	73	S E by E	
♄	——	19	72	14 05	18 36	30,0	73	72	S E	
☉	——	20	73	15 36	19 14	29 95	73	72	S E by E	
☽	——	21	73	17 09	19 56	30,05	73	72	Ditto	
♂	——	22	73	18 39$_{r}$	20 36	30,1	73¼	72	Ditto	Brisk wind, and squally
☿	——	23	72	20 6¼	21 32	30,1	72	72	E S E	
♃	——	24	72	21 30	2 01	30,0	72¼	71$_{r}$	S E by E	
♀	——	25	71	22 50	22 55	29,9	72	70$_{r}$	S E	
♄	——	26	71	24 13	22 16	30,0	72	71	East	Brisk wind, and fine weather
☉	——	27	70$_{r}$	24 40	22 45	29,9	72¼	70$_{r}$	E S E	

A little after noon Mr Bayley let down a Thermometer to the depth of 80 fathoms below the surface of the sea, where it remained 16$_{r}$, and he was 6 drawing it up On examination he found it stand at 68° The same Thermometer stood at 70° in the water at the surface and at 72°$_{r}$ in the open air

☽	——	28	71	25 29	22 23	30,2	72	71	E N E	Brisk wind, and cloudy
♂	——	29	71	26 13	21 50	29,95	71	67	N E.	Squally, with rain
☿	——	30	69	26 58	19 48	29,85	70$_{r}$	71	North	Moderate wind, and fine weath
♃	Oct	1	67	27 25	18 13	29,95	69$_{r}$	69$_{r}$	N E W S W	Squally, with rain
♀	——	2	67	27 33	17 22	30,0	68$_{r}$	65	S W S S E	Little wind, and fine weather
♄	——	3	66	28 04	16 02	30 15	66	64	S W by S	

The water in Dr Lind s Wind gage, (see Phil Transactions, vol lxv p 313) sunk ¹th of an inch in the squalls

1772.		Morn. Thermometer.	Noon. Latitude South. ° ′	Noon. Longitude West of Greenwich. ° ′	Noon. Barometer.	Noon. Thermom.	Even. Thermometer.	Winds.	Weather, &c.
☉	Oct. 4.	64	28 59	13 46	30,1	64	57	S. W.	Squally, with drizzling rain.
☽	—— 5.	56	29 0	12 21	30,05	60½	56	South.	Brisk wind and cloudy.
♂	—— 6.	59	29 42½	12 28	29,95	61	58	S. E.	Ditto, and fine weather.
☿	—— 7.	59	31 18	12 28	30,1	59	57	E. S. E.	Squally weather.
♃	—— 8.	58	32 42½	12 11	30,0	59	58½	East.	
♀	—— 9.	59	33 52½	10 56	30,15	59½	57	E. N. E.	Moderate wind, and cloudy.
♄	—— 10.	59	34 28	9 13	30,35	65	58	N. E.	Squally weather.
☉	—— 11.	57	34 41	6 50	30,3	59	59	N. N. E.	
☽	—— 12.	57	34 49	6 04	30,1	65	58	North.	Little wind, and fine weather.
♂	—— 13.	58	35 09	6 0	30,15	65	56	N. E.	
☿	—— 14.	57	35 29	4 04	30,25	60	58	N. E.	Squally, with rain.
♃	—— 15.	58	35 33	1 51 East.	30,0	63½	57	N. E. by N.	Brisk wind, and cloudy.
♀	—— 16.	59	35 14	1 07	29,95	62½	57	North.	
♄	—— 17.	56	34 57	4 49	30,05	58	54	West.	Brisk wind, and cloudy.
☉	—— 18.	53	34 33	7 35	30,1	57	53½	S. W.	
☽	—— 19	54	34 21	8 35	30,0	56	53	S. S. E.	Brisk wind, and drizzling rain.
♂	—— 20.	56	34 45	8 07½	30,2	60	54	East.	Little wind, and fine weather.
☿	—— 21.	57	35 31½	8 37	30,2	59	55	East.	
♃	—— 22.	56	36 48	9 06	29,85	59	57½	East.	Brisk wind, and cloudy.
♀	—— 23.	57	37 09.	9 45	29,95	59	57	N. E. by E.	
♄	—— 24.	54	36 39.	11 43½	30,1	57	57½	West.	Brisk wind, and cloudy.
☉	—— 25.	54½	35 26	14 08	30,25	56½	57	S. S. E.	
☽	—— 26.	57	34 43	15 37	30,05	58½	56½	S. S. E.	Moderate wind, and cloudy.
♂	—— 27.	57	33 47	16 50	30,0	61	60	S. S. E.	Ditto, fair weather.
☿	—— 28.	60	33 38	17 49	30,0	62½	59½	S. W.	Ditto.
♃	—— 29.	60	33 51	19 9	29,85	60½	58	N. W.	Ditto.
♀	—— 30.	56	In Table Bay, at the Cape of Good Hope, Lat. 33° 55′½ S. Long. 18° 23′½ E.						
☉	Nov. 22.		33 55	18 23		60		N. by W.	Brisk wind, and fine weather.
☽	—— 23.		34 34	17 42		65		N. W.	Strong gales, and flying clouds.
♂	—— 24.		35 20	17 51		63½		S. E.	Ditto.
☿	—— 25.		37 14	16 53	30,0	63	62½	S. E. ½ E.	Ditto.
♃	—— 26.	62	39 0	15 48	29,9	69	60	N. E.	Brisk wind, ditto.
♀	—— 27.	51	40 01	16 40	29,95	52	53	W. by S.	Strong wind, ditto.
♄	—— 28.	53	40 55	16 36	29,8	59	52	N. N. W.	More moderate, and cloudy.
☉	—— 29.	52	42 08	16 35	30,0	52½	53	N. W.	Strong wind, with rain.
☽	—— 30.	52	42 26	17 43	29,8	55	52	Ditto.	
		The water in Dr. Lind's wind-gage sunk 6-10ths of an inch in the squalls, and 0,35 in the intervals between them.							
♂	Dec. 1.	51½	43 14	17 53	29,9	51	46	W. N. W.	Strong wind, with rain.
☿	—— 2.	47		18 36	29,5	49	47	Ditto.	
♃	—— 3.	47	44 27	18 32	29,4	48	46	N. W.	Strong wind, and fine weather.
♀	—— 4.	44	45 23½	18 02	29,5	45	42	W. N. W.	Gentle gales, and fine weather.
♄	—— 5.	44	47 09	17 31	29,75	46	40	N. by W.	Ditto, and cloudy.

1772	Morn	Noon				Even	Wind	Weather &c
	Thermometer	Latitude South ′	Longitude East of Greenwich °	Barometer	Thermometer	Thermometer		
☉ Dec 6	36	48 23	17 34½	29,95	36	35	W S W	Gentle gales, and fine weather
☽ —— 7	38	49 49	17 04	29,7	42	38	North	Strong gales, with rain
♂ —— 8	38		17 54	29,8	39½	36	N W by N	Ditto, cloudy
☿ —— 9	33½	49 46	18 12	29 35	34	35	N W by W	Briſk wind, with ſnow
♃ —— 10	31½	51 04	18 40	29,55	35	34½	N by W	Little wind, with ſnow
♀ —— 11	31½	51 50	18 40	29,35	32½	33	N N W	Ditto, cloudy
♄ —— 12	32½	Cloudy	19 0	29,3	34	32	W by N	Ditto and much ſnow
☉ —— 13	30½	Cloudy	20 12	28,85	31	30	W N W	
☽ —— 14	30½	54 53	22 04	28,55	32	30	N by E	Light airs, and fair weather
♂ —— 15	28	55 02	22 30	28,55	31½	30½	Ditto	Light airs, and foggy, with ſnow
☿ —— 16	31	55 0	22 22	28,55	31½	31½	W N W	
♃ —— 17	31	55 21	23 30	28,65	31½	30½	N W	Light wind, with ſnow
♀ —— 18	31	54 59	24 40	28,7	31½	30½	N N W	
♄ —— 19	30	54 34	25 10	28,55	31½	31½	N W and N N E	Strong wind, with ſnow
☉ —— 20	32	54 11	27 27	28,55	34	31½	N N W	
☽ —— 21	32	54 07	28 27	28,6	34	31½	W N W	
♂ —— 22	32	54 52	29 01	28,6	31½	32	Ditto	Little wind, and flying clouds
☿ —— 23	32	55 24	30 12	29,15	31½	33	N W by W	
♃ —— 24	32	56 29	30 02	29,35	34	32	E N E	
♀ —— 25	31½	57 54	29 06	29,1	31½	31	South	Briſk wind and cloudy
♄ —— 26	31	58 30	26 22	29,35	32	31	Ditto	Little wind and cloudy
☉ —— 27	32	58 21	24 06	29,5	35	32	N W by W	Little wind and fair weather
	Let down a Thermometer 160 fathoms below the ſurface of the ſea; it lay at that depth 25 minutes, and was ſeven minutes drawing up, when it was found to ſtand at 33; the ſame thermometer ſtood at 32 in the water at the ſurface, and at 31½ in the open air							
☽ —— 28	30½	58 33	22 11	29,55	31½	31½	E by N	Briſk wind, with ſnow
♂ —— 29	31½	59 11	19 57	29,1	33	31	Eaſt	Little wind, with ſnow
☿ —— 30	32	59 22	18 25	28,9	34	32	E S E	Ditto, with rain
♃ —— 31	30½	59 55	15 45	28,95	33	32	S E	Strong wind, and cloudy
1773								
♀ Jan 1	32	60 0	13 0	28,8	31	32	S S W	Briſk wind, with ſnow
♄ —— 2	31	59 21	10 06	29,45	32	31½	W by N	Ditto, and fair weather
☉ —— 3	31	59 23	11 24	29,3	32	31	E N E	Strong wind, with ſnow
☽ —— 4	32	59 01	14 14	29,4	33	33	N N W	
♂ —— 5	33	59 37	19 04	29,35	33	33	Ditto	
☿ —— 6	33	59 59	23 08	29,15	33	33½	N W by W	
♃ —— 7	32½	60 36	27 1	29,05	34	32	W N W	Moderate wind, and cloudy
♀ —— 8	32½	61 20	31 20	28,95	34	33	Ditto	Ditto, and thick ſnow
♄ —— 9	32½	61 36	33 26	28,95	35	33	Ditto	Ditto, and rain
☉ —— 10	32½	61 57	34 30	29,2	34	33	Ditto	Moderate wind, and fair weather
☽ —— 11	32½	63 19	35 46	29,2	34½	32½	North	
♂ —— 12	33	64 14	37 0	29,35	35	32	S S E	
☿ —— 13	34	64 14	39 43	29,4	40	33	S S W	
♃ —— 14	32	63 57	40 03	29,25	35½	33	S S E	

1773.		Morn. Thermometer.	Noon. Latitude South. ° ′	Noon. Longitude East of Greenwich. ° ′	Barometer.	Thermom.	Even. Thermometer.	Winds.	Weather, &c.
♀	Jan. 15.	34	63 35	40 03	29,05	37	33	S. E.	Briſk wind, with ſnow and ſleet.
♄	—— 16.	34	64 32	39 53	28,9	35	34	Ditto.	
☉	—— 17.	32	66 34	40 02	28,95	32½	33	S. E. by E.	
☽	—— 18.	33	65 58	40 02	28,9	34	33	S. W. by S.	
♂	—— 19.	33	64 29½	40 58½	29,1	35	33	S. E. by E.	Moderate wind, and cloudy.
☿	—— 20.	34	63 59	40 41	28,8	33	32½	Ditto.	Strong wind, with ſnow.
♃	—— 21.	33½	62 45	43 14	28,7	33½	34½	S. S. E.	Little wind, ditto.
♀	—— 22.	34	61 33	45 29	29,3	34½	35	South.	Ditto, and cloudy.
♄	—— 23.	34	60 02	48 36	29,15	35	34½	S. by E.	Strong wind, with ſnow and ſleet.
☉	—— 24.	34	58 24	51 47	29,3	35	33	N. W.	
☽	—— 25.	34	58 08	52 0	29,15	35	34	E. N. E.	Strong wind, and foggy.
♂	—— 26.	34	57 22	53 57	29,3	34½	34½		Calm, with thick ſnow.
☿	—— 27.	33½	56 30	52 03	29,1	35	33	S. W. by W.	Gentle gales, and fair weather.
♃	—— 28.	33	54 32	53 09	28,1	36	33½	N. N. W.	Briſk wind, and flying clouds.
♀	—— 29.	34	52 28	54 12	29,0	37	34	N. by W.	Ditto, and cloudy.
♄	—— 30.	39	51 31	55 22	29,5	40	39	N. N. W.	Strong wind, with much rain.
☉	—— 31.	38	50 48	56 11	29,55	39	38	Ditto.	Briſk wind, with flying clouds.
☽	Feb. 1.	41	48 32	59 03	30,05	42½	47	N. by W.	
♂	—— 2.	44	48 45	59 19	30,15	44	44	N. W.	Little wind, with drizzling rain.
☿	—— 3.	44	49 15	59 19	30,15	44	43	N. N. W.	Strong wind, with heavy rain.
♃	—— 4.	43	49 04	57 39	29,5	43½	43½	N. W.	Light winds, with cloudy weather.
♀	—— 5.	40	48 0	60 14	29,5	41½	40½	N. N. E.	Briſk wind, and fair weather.
♄	—— 6.	42	48 53	60 22	29,6	45	43	N. N. W.	Ditto, with ſlight ſhowers.
☉	—— 7.	43	50 14	63 06	29,8	44	42½	N. W.	Light winds, and fair weather.
☽	—— 8.	44	50 14	65 11	29,5	43	43	N. E.	Ditto, thick fog and rain.
♂	—— 9	43	50 17	65 27	28,7	43	41	N. N. E	Strong winds, and much rain.
☿	—— 10.	39	49 54	66 0	29,4	40	40	N. W. by W.	Ditto, and fair weather.
♃	—— 11.	40	50 18	66 11	29,9	42	40	N. N. W.	Ditto, and foggy.
♀	—— 12.	38	50 41	69 06	29,5	40	37	Ditto.	Moderate, and cloudy.
♄	—— 13.	37	51 05	72 11	29,6	39	39	N. W.	
☉	—— 14.	38	51 39½	75 30	29,5	39½	38	Ditto.	
☽	—— 15.	37	52 13	79 18	29,6	38	39	S. W. by W.	
♂	—— 16.	36	52 32	81 22	29,6	37½	37	W. N. W.	Strong wind, with rain.
☿	—— 17.	36	52 54	85 10	29,5	37	37	Ditto.	
♃	—— 18.	37	52 52	88 52	29,55	40	37	W. by N.	
♀	—— 19	36	52 38	92 0	28,85	38	38	S. W.	
♄	—— 20.	36	62 16	96 56	29,05	36	37	W. N. W.	Briſk wind, with ſnow.
☉	—— 21.	40	52 15	99 54	29,6	41	38	S. W.	Little wind, and fair weather.
☽	—— 22.	39	52 29	102 49	29,0	38	40	E. N. E.	Briſk wind, and rainy weather.
♂	—— 23	39	52 17	104 16	28,5	41½	39	N. W. by N.	Ditto, and ſqually.
☿	—— 24.	40	52 07	106 49	28,5	43	41	N. W.	Gentle breezes, and fair weather.
♃	—— 25.	41	51 41	110 30	29,45	45	40	W. N. W.	Briſk wind, and flying clouds.

This evening we ſaw the Southern lights for the firſt time: they were ſo bright that large print might have been read by their light.

1773	Morn	Noon				Even	Winds	Weather &c.
	Thermometer	Latitude South	Longitude East of Greenwich	Barometer	Thermom.	Thermometer		
♀ Feb 26	43	51 18	114 02	29 95	44	44	North	Briſk wind and hazy
♄ —— 27	45	50 47	117 59	29,45	43	45	N N W	Ditto and drizzling rain
☉ —— 28	43	50 24	122 30	29,45	43½	44	W N W	Ditto, and flying cloud
☽ March 1	47	49 02	126 0	29,65	49½	46	N N W	Ditto, in ſqualls
♂ —— 2	52	47 29	129 0	29 75	52	52	N W	Ditto, with thick drizzling weather
☿ —— 3	53	46 18	130 15	29,65	53	52	N N W	
♃ —— 4	49	44 48	132 15	29,6	51	51	S W	Briſk wind, and flying clouds
♀ —— 5	52	44 3	134 40	29,75	56	52	Weſt	Ditto and fair weather
♄ —— 6	53	43 57	138 0	29 6	52	51	W S W	Briſk wind, and ſqually weather
☉ —— 7	51½	43 46	141 40	29,75	52½	55	W by N	Moderate wind, and fine weather
☽ —— 8	54½	43 41	144 06	29,9	55	52	Weſt	
♂ —— 9	55	43 46	145 37	30,0	57	54	N N W	
☿ —— 10	57	43 40	147 20	29,55	54	53	W S W	Strong wind, and drizzling rain
♃ —— 11	56	43 23	147 30	29,95	57	52	W N W	Little wind and fine weather
♀ —— 12	57	In Adventure's Bay, at Van Dieman's Land		30,0	58	5[illegible]	N by W	
♄ —— 13	55½			30,0	57	58¼	W by S	
☉ —— 14	57			29,72	57	57	S S E	
		43 23	147 30					
☽ —— 15	56	43 20	147 40	29 5	56	51	Ditto	Briſk wind with rain
♂ —— 16	52	43 08	148 26	29,65	55	53	W by S	Briſk wind and cloudy
☿ —— 17	53	41 44	148 11¼	29,8	54½	52	W by N	Briſk wind and drizzling rain
♃ —— 18	53	40 22	148 08	29,95	54½	52	S S W	
♀ —— 19	57	39 21	148 33	30,05	59	54	S S E	Moderate wind and fine weather
♄ —— 20	60	39 22	150 13	30,01	61	56	South	Moderate wind, and cloudy
☉ —— 21	58	39 16¼	151 43	30,15	59½	57	S by E	
☽ —— 22	57	39 28	15[illegible] 58	30 05	53	57	South	Strong wind with rain
♂ —— 23	55	39 08	154 25	30,05	54	54	Ditto	
☿ —— 24	57	38 58	155 27	30,05	58	53	Ditto	
♃ —— 25	57	39 21	157 37	30,2	60	60	Ditto	Briſk wind and cloudy
♀ —— 26	61	40 06	159 44	30,25	61¼	59	Ditto	Briſk wind, and ſqually
♄ —— 27	61½	40 14¼	161 06	30,[illegible]	61	60	S ¼ W	Briſk wind and fine weather
☉ —— 28	62	40 16	161 36	30,4	64	61	S W	

Let down a thermometer to the depth of 140 fathoms and on drawing it up found it ſtand at 56¼; it ſtood at 64 in the open air, and at 59°¼ in the water at the ſurface

☽ —— 29	61	40 42	163 07	30,5	64	62	North	Briſk wind and fine weather
♂ —— 30	62	41 14	164 49	30,45	64	64	N by E	
☿ —— 31	64	41 33	166 47	30,35	64¼	62	North	Ditto
♃ April 1	63	41 31	168 35	30,05	63¼	62	N N W	Briſk wind, and much rain
♀ —— 2	62	41 17	170 45	29,7	62	61	N by W	
♄ —— 3	62	40 40	171 45	29,6	63	60	N N W	
☉ —— 4	63	40 16		29 65	66	62	Eaſt	Moderate wind, and fine weather
☽ —— 5	63	40 53		29 8	61¼	61	S W by S	
♂ —— 6	63	41 04¼	173 56	30 15	61¼	57	N W	

1773.	Morn.	Noon.				Even.		
	Thermometer.	Latitude South. ° ′ ″	Longitude East of Greenwich. ° ′	Barometer.	Thermom.	Thermometer.	Winds.	Weather, &c.
☿ April 7.	54	41 05 47	173 56	30,4	58	56	South.	
♃ —— 8.	52	In Q. Charlotte's		30,1	58	55		Moderate wind, and fair wea-
♀ —— 9.	54	Sound.		29,8	61	55		ther.
♄ —— 10.	54			29,85	56	66		
☉ —— 11.	52½			30,1	56½	63	South.	Brisk wind, and flying clouds.
☽ —— 12.	54			30,1	62	56	N. N. W.	Ditto, and fair weather.
♂ —— 13.	57			30,14	58½	54	N. by W.	Moderate wind, and fair wea-
☿ —— 14.	53			30,0	59	56	Ditto.	ther.
♃ —— 15.	52			29,92	57	54	S. by W.	Strong wind, and cloudy.
♀ —— 16.	56			30,03	53	54	S. S. W.	Little wind, and fair weather.
♄ —— 17.							Ditto.	Strong wind, and ditto.
☉ —— 18.							Ditto.	Ditto, and rain.
☽ —— 19.							Ditto.	Ditto, and cloudy.
♂ —— 20.							Ditto.	Ditto, and fair weather.
☿ —— 21.	53			29,77	59	59	S. W. by S.	Moderate wind, and ditto.
♃ —— 22.	53			29,55	53½	52½	W. S. W.	Brisk wind, with rain.
♂ —— 23.	51			29,64	51	51	Ditto.	
♄ —— 24.	49½			29,82	54	50	Ditto.	
☉ —— 25.	57½			29,9	58	57	West.	Moderate wind, and fine wea-
☽ —— 26.	58			29,92	58½	56	N. E.	ther.
♂ —— 27.	44			30,04	57½	54	S. S. W.	
☿ —— 28.	51			30,0	56	54½	Ditto.	
♃ —— 29.	49½			30,14	54	50	Ditto.	Moderate wind, and fair wea-
♀ —— 30.	50½			30,24	54	51½	Ditto.	ther.
♄ May 1.	56			30,36	59	54½	N. by E.	
☉ —— 2.	49			30,33	54½	55	S. S. W.	
☽ —— 3.	47			30,27	57	45½	N. N. E.	Moderate wind, with rain at times.
♂ —— 4.	53½			29,96	59	49	W. by N.	Ditto, and fair weather.
☿ —— 5.	57			29,7	57	53	Ditto.	Strong wind, with rain.
♃ —— 6.	48			30,27	54	55	S. W. by S.	Scarce any wind, and very fine.
♀ —— 7.	51½			30,31	59	56	N. W.	
♄ —— 8.	52½			30,06	57½	56½	W. by N.	
☉ —— 9.	57½			30,03	58½	54	S. S. W.	Brisk wind, and fine weather.
☽ —— 10.	56			29,81	58½	56½	S. W. by W.	
♂ —— 11.	47			30,01	48	47	S. S. W.	
☿ —— 12.	54½			30,28	52½	49	W. N. W.	Gentle breezes, and very fine
♃ —— 13.	45			30,15	52	49	S. S. W.	weather.
♀ —— 14.	48			30,32	51½	52	N. E.	
♄ —— 15.	47			30,24	58	57	N. by W.	Strong wind, and flying clouds.
☉ —— 16.	57			29,75	58½	48	Ditto.	Ditto, with rain.
☽ —— 17.	51			29,63	46½	43	W. S. W.	Ditto, with heavy showers.
♂ —— 18.	52			29,5	58	47½	S. S. W.	Gentle breezes, and fine wea
☿ —— 19.	40			29,7	51½	48	Ditto.	ther.
♃ —— 20.	50			30,02	56	45	East.	

1773		Morn Thermometer	Noon Latitude South. ′		Noon Longitude East of Greenwich °		Noon Barometer	Noon Thermom.	Even Thermometer	Wind	Weather, &c
♀ May	21	54					30,02	57	44	East	
♄ ——	22	49					29,86	49	47	N N E	
☉ ——	23	48					30,25	49	50	S W by W	Gentle breezes, and fine weather
☽ ——	24	49					30,2	54	49	S S W	
♂ ——	25	49					30,1	57½	48	N by E.	Brisk wind, and thick, with rain
☿ ——	26	49½					29,6	57½	47	E by N	Strong wind, and ditto
♃ ——	27	47					29,65	57	49	N W	Brisk wind, with rain
♀ ——	28	49					29,66	58	48	N E	
♄ ——	29	48					29,75	58	49	Ditto	Moderate wind, with flying clouds
☉ ——	30	59½					29,81	59½	52	West	
☽ ——	31	57					30,1	49½	51	S S W	Ditto, with drizzling rain
♂ June	1	56					30,3	56	50	Ditto	
☿ ——	2	52					30,19	58	56	Ditto	Ditto, and fair weather
♃ ——	3	53					30,3	58	51	S W	
♀ ——	4	54					30,41	59½	49	S S W	Brisk wind, and cloudy
♄ ——	5	57					30,41	49½	47	Ditto	Strong wind, with rain
☉ ——	6	52					30,3	56	47	Ditto	
☽ ——	7	49½	41	3½	174	04	30,05	56	48	Ditto	Brisk wind, and fair weather
♂ ——	8	49½	41	53½	174	48	29,7	51½	47½	N W	Gentle gales, and ditto
☿ ——	9	55	42	50	176	48	29,55	52½	48	Ditto	Gentle gales, and flying clouds
♃ ——	10	53	43	57	179	26	29,5	57	47	N N W	
♀ ——	11	52	44	45	181	06	29,7	57	48	N by W	Brisk wind, with thick weather
♄ ——	12	51½	45	45	183	49	29,6	54	47	N N W	Little wind, and hazy
☉ ——	13	50	46	29	184	0	29,85	52	49	E S E	Brisk wind, and cloudy
☽ ——	14	49	46	43½	185	14	29,6	48½	48	W S W	Little wind, and hazy
♂ ——	15	54	46	45½	186	07	29,75	49	47	N E. by E	
☿ ——	16	48	47	23	186	32	30,0	50	49	F by S	Brisk wind, with rain
♃ ——	17	48	46	21	186	32	29,8	49	47½	E S E	Brisk wind, and hazy
♀ ——	18	49	45	50	188	44	29,95	49	47	S S E	
♄ ——	19	47½	45	12	190	46	30,1	50	47½	W S W	Brisk wind, and flying clouds
☉ ——	20	48	44	30	193	27	30,2	49	49	S E	
☽ ——	21	50	44	17	194	52	30,15	51½	50	W S W	
♂ ——	22	51	44	32	190	32	30,15	52	49	W by S	Little wind, and cloudy
☿ ——	23	49	44	37	197	32	30,0	50	48½	N W by N	
♃ ——	24	47	43	42	197	37	29,7	52½	49	East	Strong wind with rain
♀ ——	25	54	43	13	197	12	29,5	54	49	E by N	
♄ ——	26	52	43	5	196	37	29,3	55	48	N E by N	Brisk wind, and cloudy
☉ ——	27	52	42	23	196	37	29,35	53	51	S E by E	Ditto, with drizzling rain
☽ ——	28	52	42	24	197	44	29,35	53	50	West	Light airs, and foggy at times
♂ ——	29	53	42	46	199	0	29,35	53	52	N E	Ditto, and fair weather
☿ ——	30	51	43	0	200	25	29 45	52	50	South	Brisk wind, and squally
♃ July	1	49	43	06	202	19	29,65	50	50	S by E	Gentle breezes, and hazy
♀ ——	2	49	42	59	203	40	29,75	51	50	S S E	Ditto, and fair weather
♄ ——	3	48	43	13	205	03	29 8	53½	41	N N W	Brisk wind, and flying clouds

1773.		Morn. Thermometer.	Noon. Latitude South. ° ′	Noon. Longitude East of Greenwich. ° ′	Noon. Barometer.	Noon. Thermom.	Even. Thermometer.	Wind.	Weather, &c.
☉	July 4.	49	43 57	205 52	29,9	50½	48½	E. by S.	Brisk wind, and flying clouds.
☽	—— 5.	49	43 24	208 09	29,95	47½	47		Strong wind, and squally, with rain.
♂	—— 6.	52	42 05	208 43	29,75	52½	49		Brisk wind, and flying clouds.
☿	—— 7.	52	41 18½	209 05	29,5	53½	49½		Little wind, and fair weather.
♃	—— 8.	52	41 59	210 49	29,5	51½	48½	West.	Fresh gales, and squally.
♀	—— 9.	52½	42 38	212 33	29,9	51½	52½	W. S. W.	Gentle gales, and flying clouds.
♄	—— 10.	53½	43 38	215 43	30,0	51½	51½		Brisk wind, and squally.
☉	—— 11.	46	43 30	217 33	30,15	47	46	S. by W.	Gentle gales, and flying clouds.
☽	—— 12.	47	43 13½	219 19	30,3	51½	49	S. S. W.	
♂	—— 13.	55	42 57½	220 20	30,35	52	48½	West.	Little wind, and fair weather.
☿	—— 14.	49	42 50	221 32	30,05	50½	47½	N. E.	Brisk wind, and cloudy.
♃	—— 15	50	42 30	221 23	29,1	52	47½	E. N. E.	Strong wind, with drizzling rain.
♀	—— 16	48	41 23	223 0½	29,4	50½	47½	S. S. W.	Brisk wind, with hail and rain.
♄	—— 17	45	39 42½	225 04	29,8	44	46	S. W. by S.	
☉	—— 18.	46	37 51½	225 29	30,25	50½	47	S. W.	Gentle gales, and fair weather.
☽	—— 19	53	36 30	225 39	30,2	54½	54	S. S. W.	
♂	—— 20.	54	35 19	225 36	30,15	55	53	S. E.	Brisk wind, and flying clouds.
☿	—— 21.	58	32 45	224 36	29,6	59	57	East.	Srong wind, with rain.
♃	—— 22	62	31 03	224 36	29,75	64	63	S. S. W.	Brisk wind, with showers.
♀	—— 23.	62	29 21	224 13	29,9	64	64	N. W. by N.	Moderate wind, with drizz. rain.
♄	—— 24.	64	29 43	222 49	29,9	65	65	N. N. W.	Strong wind, and much rain.
☉	—— 25	66	29 46	223 05	29,65	64	66	N. W.	Brisk wind, ditto.
☽	—— 26.	66	28 53	225 14	30,0	68	67	N. W. by W.	Moderate wind, and fair weath.
♂	—— 27.	67	27 55	225 14	30,0	69	67	W. S. W.	Little wind, and ditto.
☿	—— 28.	67	27 42	224 40	30,1	69	68	N. by W.	
♃	—— 29	67½	27 31	223 50	30,0	70	69	N. W.	Little wind, and fair; rain in the night.
♀	—— 30	69	27 03½	224 44	30,0	71	68	N. N. W.	
♄	—— 31.	69	26 19½	225 09	29,75	67	67	W. by N.	
☉	Aug. 1	68	25 11	225 57	29,8	67	66	W. N. W.	Brisk wind, with showers.
☽	—— 2	67	23 14	226 11	30,05	70	68	W. by S.	Moderate W. with flying clouds.
♂	—— 3	71	22 11	226 59	30,15	72	67	West.	Little wind, and fine weather.
☿	—— 4	72	21 22	227 10	30,05	75	75	Ditto.	
♃	—— 5	73	20 39	227 50½	30,15	77	77	N. W.	
♀	—— 6	76	19 46	228 35	30,05	77	78	West.	Little wind, and cloudy.
♄	—— 7.	78	18 52	227 21	30,15	71	76	E. S. E.	Brisk wind, and cloudy.
☉	—— 8.	76	18 04	224 47	30,05	76	75	Ditto.	
☽	—— 9.	75	17 41	222 36	30,25	75	74	E. by S.	
♂	—— 10.	75½	17 23	220 33	30,25	78½	75	Ditto.	
☿	—— 11.	77½	17 16½	218 29	30,1	79	76	East.	Gentle gales, and flying clouds.
♃	—— 12	77	17 10	216 10	30,0	79½	77	E. by S.	
♀	—— 13	78½	17 15	215 11	30,1	80	78	Ditto.	Gentle gales, and hazy.
♄	—— 14	79	17 18	212 50	30,0	79½	77	Ditto.	
☉	—— 15	78½	17 46	211 05	30,05	80	77	Ditto.	Little wind, and fair weather.
☽	—— 16	78½	17 46		30,1	82	84	S. by E.	

1773	Morn Thermometer	Noon Latitude South ° ′	Noon Longitude East of Greenwich ° ′	Noon Barometer	Noon Thermom.	Even Thermometer	Wind	Weather &c
♂ Aug 17	81	17 39½		30,0	82	82	East	Little wind, and cloudy
☿ —— 18	84	17 44¼	210 36	30,05	82	81	Ditto	Ditto and fair weather
♃ —— 19	83	In Oaitipeha Bay,		30,1	82	81	Ditto	Brisk wind, with showers
♀ —— 20	82	on the N W		30,0	82¼	80¼	E by S.	
♄ —— 21	80½	side of the lesser		29,95	81¼	77¼	N E	Brisk, and flying clouds
☉ —— 22	78	peninsula of Ota		29,85	81	79	N N W	
☽ —— 23	77	heite		30 0	78	78	W by S	
♂ —— 24	75			30,05	75	77	S W by W	Moderate wind, with showers
☿ —— 25	74	17 24½	210 34	30,0	80½	78	E S E	
♃ —— 26	72	In Matavi Bay, Otaheite		30,1	81½		Ditto	Light winds, and fine weather
♀ —— 27		17 29	210 23				Ditto	
♄ —— 28							Ditto	
☉ —— 29							Ditto	
☽ —— 30							Ditto	
♂ —— 31							Ditto	
☿ Sept. 1							Ditto	
♃ —— 2	76½	16 59¼	209 38½	30,0	77	75¼	West	
♀ —— 3	75	16 45	209 0	30 0	77	76	S E	Gentle breezes, and fine weather
♄ —— 4	76	At anchor in Ow		30,1	78¼	77	Ditto	
☉ —— 5	77	harre Harbour,		30,0	79½	79	E S E	
☽ —— 6	77½	in Huaheine		30,0	78	77	Ditto	
♂ —— 7	77½	16 59¼		30,05	80	77	Ditto	
☿ —— 8	78	16 45¼	208 35	30,0	81	78	Ditto	
♃ —— 9	77½			30,0	80½	78	Ditto	
♀ —— 10	76			30,1	82½	81¼	Ditto	
♄ —— 11	77			30,0	82	82	Ditto	
☉ —— 12	76	At anchor in Oha		30,0	77	80	W S W	
☽ —— 13	76½	manens Harbour,		30,16	78¼	80¼	E S E	
♂ —— 14	77	in Uliateah		30,14	77¼	75¼	Ditto	Little wind, and drizzling rain
☿ —— 15	74½			30,13	77¼	76	E by N	
♄ —— 16	75½			30,11	77¼	75	E by S	
♀ —— 17	76½	16 50½	208 11	30,05	78	78	E S E	Brisk wind, and flying clouds
♄ —— 18	76½	17 16	207 02	29,9	78¼	77¼	Ditto	
☉ —— 19	77½	17 40	205 58	29 95	78¼	78	E by S	Moderate wind, and fair weather
☽ —— 20	76½	18 02	204 50	30 0	80¼	77¼	East	
♂ —— 21	78½	18 24	204 25	29,9	80	76¼	E by N	Moderate winds, and showers
☿ —— 22	78	18 40	203 31	30 0	77	76	N W	Ditto and flying clouds
♃ —— 23	72½	19 06	201 58	30 0	74	72	S S F	Brisk W and cloudy with rain
♀ —— 24	73½	19 28½	200 20	30,05	74¼	72¼	S E by S	Little wind, and cloudy
♄ —— 25	74½	19 52	197 40	30,05	74¼	73	F S E	Brisk wind, and cloudy
☉ —— 26	73	20 25	95 26	30 95	73¼	71	Ditto	Ditto, with drizzling rain
☽ —— 27	70½	20 39	193 09	30,95	72¼	70¼	Ditto.	Ditto, with flying clouds
♂ —— 28	72	21 04	190 03	30,0	74	72	E by S	Brisk wind, and cloudy

1773.		Morn. Ther-mo-meter.	Noon. Latitude South. ° ′		Noon. Longitude East of Green-wich. ° ′		Noon. Baro-meter.	Noon. Thermom.	Even. Ther-mo-meter.	Wind.	Weather, &c.
☿	Sept. 29.	72	21	28½	188	36	30,1	72	71	E. by S.	Moderate wind and flying clouds.
♃	—— 30.	70½	21	12			30,0	70	68½	S. E. by E.	
♀	Oct. 1.	69	21	20½	185	40	30,0	72	69	Ditto.	Moderate wind, and cloudy.
♄	—— 2.	70½	21	21½			30,15	71½	68½	E. N. E.	
☉	—— 3.	71	21	04			30,0	71½	72	Ditto.	Ditto.
☽	—— 4.	70½	21	4	185	10	30,05	72½	70	Ditto.	
♂	—— 5.	66½	At Tongatabu, one of the Friendly Islands.				30,0	71	70	E. by N.	Brisk wind, with showers.
☿	—— 6.	67	21	4$\frac{9}{10}$			29,95	73	71	Ditto.	Gentle gales, with clouds.
♃	—— 7.	69	21	4½			30,0	71½	71	E. S. E.	
♀	—— 8.	71	22	1½	185	02	29,95	71½	70	S. W. by S.	Little wind, and cloudy.
♄	—— 9.	70	22	25½	185	28	30,0	71	69	S. S. W.	Brisk wind, and fair weather.
☉	—— 10.	69	22	45	184	15	30,05	69	67	S. E. by S.	
☽	—— 11.	67	23	54	183	0	30,0	68	67	S. E. by E.	Moderate wind, and ditto.
♂	—— 12.	68	25	31	181	43	30,2	68	66	East.	
☿	—— 13.	67	27	11½	180	56	30,2	68	67	E. by S.	Moderate wind, and cloudy.
♃	—— 14.	66	28	42	180	14	30,1	66	65	East.	
♀	—— 15.	65½	30	15	179	47	30,2	67½	65	E. by N.	Moderate wind, and fine weather.
♄	—— 16.	64	31	38½	179	45	30,2	66½	65	East.	
☉	—— 17.	65	32	43	179	58	30,2	67½	65½	N. E.	Light winds, and fair weather.
☽	—— 18.	65	33	47½	180	05	30,0	67	64½	N. N. E.	
♂	—— 19.	64½	35	54½	180	21	29,15	65½	64	North.	
☿	—— 20.	58	37	44½	179	45	29,65	60	59	West.	Brisk gales, with rain.
♃	—— 21.	58	39	06½	178	26	29,25	64	60	N. W.	
♀	—— 22.	56	40	15	176	30	29,2	59	57	North.	
♄	—— 23.	55	40	53½	176	05	29,55	56	56	S. S. W. ½ W.	Strong wind, in squalls.
☉	—— 24.	56	41	30	175	28	29,3	61	55½	W. N. W.	
☽	—— 25	54	42	18	174	58	29,25	60	56	N. W.	
♂	—— 26.	55	42	33	174	42	29,6	54½	51	South.	Strong wind, and cloudy weather.
☿	—— 27.	54½	42	17	174	33	29,65	56	54	N. W.	
♃	—— 28	54	42	18	175	10	29,25	56	54	Ditto.	Ditto, and fair weather.
♀	—— 29.	53½	41	50	175	33	29,65	53	53	W. by N.	Moderate wind, and ditto.
♄	—— 30.	54	41	53	175	29	29,55	60	54	N. W.	Strong wind, and hazy.
☉	—— 31.	59	42	32	175	41	29,7	64½	55	N. N. W.	Ditto, and fair weather.
☽	Nov. 1.	58	42	52	175	45	29,15	61	54	N. N. W.	Little wind, and rain.
♂	—— 2.	58	41	37	176	0	29,65	57	52	W. by N.	Moderate wind, and cloudy.
☿	—— 3	53	41	20	175	30	29,75	53	54	S. S. W.	Light winds, and fair weather.
♃	—— 4.	54	41	40	175	0	29,7	60½	59	N.W. by W.	
♀	—— 5.	56	41	34	175	10	29,65	51	54	S. W.	Strong wind, and heavy rain.
♄	—— 6.	54	41	37	175	57	29,6	52	53	South.	Ditto, with hail and rain.
☉	—— 7.	53	39	41	177	25	29,75	53	53	S. by W.	Little wind, and fair weather.
☽	—— 8.	60	39	01½	177	51	29,75	63	54	W. by N.	Ditto, with drizzling rain.
♂	—— 9.	56	38	21½	178	33½	29,65	57	57	S. by W.	Moderate wind, and fair weather.

1773	Morn	Noon				Even	Wind	Weather &c.
	Thermometer	Latitude South	Longitude East of Greenwich	Barometer	Thermom.	Thermometer		
☿ Nov 10	59			29,85	57	57½	S S E	Moderate wind, and fair weather
♃ —— 11	56	At anchor in To-		29,8	57	54	South	
♀ —— 12	56	laga Bay		30,1	59	54	S E	Strong wind, and squally
♄ —— 13	52			30,1	58½	57	S E by E	
☉ —— 14	57			30,2	61	66	E S E	
☽ —— 15	56			29,95	60½	60	S S E	Moderate winds, and fair weather
♂ —— 16	54	38 31½	178 37	29,65	64	60	N N E	
☿ —— 17	62½	39 42	178 07	29,6	67	62	N W	
♃ —— 18	63	39 59	177 45½	29,6	68	67	W N W	
♀ —— 19	62	40 39	177 09	29,55	68	62	N W W by S	Little winds, with squally weather
♄ —— 20	64	41 03	175 50	29,8	56	55½	Variable	Little winds, and cloudy
☉ —— 21	54	41 05	175 40	29,75	55	54	South	Strong wind, with rain at times
☽ —— 22	52	41 04	176 25	30,1	55	55	S S W	Moderate wind, with flying clouds
♂ —— 23	58	40 54	175 53	30 2	61½	56	S E	Little wind, and fair weather
☿ —— 24	57	41 36	175 0	30,3	61½	65	N E	
♃ —— 25	56½			30,0	56	57	N N W	Strong wind, and hazy
♀ —— 26	56			30,15	58	56	Ditto	Moderate wind, with rain
♄ —— 27	56	41 57	174 45	29 9	61	57	Ditto	Strong wind, with rain
☉ —— 28	58			30,2	62½	56	Ditto	Light airs, and hazy
☽ —— 29	57½	42 07	174 50	29,85	60	56	S W	
♂ —— 30	54			30,15	57½	55	S by W	Moderate wind, and fine weather
☿ Dec 1	56			30,22	63½	56	South	
♃ —— 2	56			30,08	66	57	N W	
♀ —— 3	57			30,02	67½	56	Variable	
♄ —— 4	56			29,8	59	54	N N W	Squally, with drizzling rain
☉ —— 5	54	On shore in Queen		29,8	69	59	North	
☽ —— 6	55	Charlotte's Sound		29,7	68	66	Variable	
♂ —— 7	57			29,96	68½	68	N W	Strong wind and much rain
☿ —— 8	51			30,46	69	69	N N W	Moderate wind, and fair weather
♃ —— 9	59			30,4	69½	68½	W N W	
♀ —— 10	64			30,57	69	64	Variable	Little wind, and fair weather
♄ —— 11	60½			30,48	73½	69	N W	Little wind, and fine weather
☉ —— 12	63			30,39	73½	65	Ditto	Brisk wind, and fine weather
☽ —— 13	61			30,30	73½	65	Ditto	
♂ —— 14	61			30,38	74	73½	Variable	Moderate wind, and cloudy
☿ —— 15	59			30,26	64	61	N N E	Gentle breezes and fair weather
♃ —— 16	57			30,20	65	72	S S W	Brisk wind, and squally
♀ —— 17	54			30,0	66	59	N E	Gentle breezes, and fair weather
♄ —— 18	65			29 92	64	59½	N W	
☉ —— 19	61			29,96	66½	60	Variable	
☽ —— 20	61½			29,94	65½	62	N N E	Strong gales in squalls, & cloudy
♂ —— 21	61			29 65	63	64	N W by N	Brisk gales, and hazy
☿ —— 22	65			29,8	65½	65	Ditto	

1773.	Morn. Thermometer.	Noon. Latitude South. ° '	Noon. Longitude East of Greenwich. ° '	Noon. Barometer.	Noon. Thermom.	Even. Thermometer.	Winds.	Weather, &c.
♃ Dec. 23.	64	42 25½	175 10	30,1	66	65½	N. W.	Little wind, and fine weather.
♀ —— 24.	61½	43 0½	175 0	30,15	64½	62	E. N. E.	
♄ —— 25.	59½	44 39	175 56	30,2	62	61½	N. E.	Little wind, and foggy.
☉ —— 26.	57	45 43	176 59	29,	57	60	S. by E.	Little wind, and foggy, with drizzling rain.
☽ —— 27.	57	46 25	177 44	29,75	58	56	Ditto.	
♂ —— 28.	52	47 05	178 32	30,05	54	54	Variable.	
☿ —— 29.	52	48 07½	178 56	29,9	54	54	N. E. by E.	Brisk wind, and cloudy.
♃ —— 30.	51	49 33	179 37	29,4	56	51	Variable.	Little wind, and thick fog.
♀ —— 31.	50	50 36	179 50	28,95	48	50	S. S. E.	Strong wind, and much rain.
1774.								
♄ Jan. 1.	45	50 37	180 55	29,75	46	41	South.	Brisk wind, and flying clouds.
☉ —— 2.	41	51 37	183 11	30,05	48	42	W. by S.	Ditto, and cloudy.
☽ —— 3	49	53 11	186 18	29,7	49½	49	West.	Strong wind, and thick, with rain.
♂ —— 4.	49	54 41	189 27	29,25	46	46	Ditto.	Moderate wind, and heavy rain.
☿ —— 5.	43	55 29	192 42	29,4	46	45	W. S. W.	Brisk wind, and flying clouds.
♃ —— 6.	38½	56 27	196 7½	29,4	41	40	S. by W.	Ditto, with squally weather.
♀ —— 7.	38	56 57	199 42½	29,6	38	37	Ditto.	Ditto, with sleet.
♄ —— 8.	38	57 06	202 47	29,7	40	36½	S. by E.	Moderate wind, with showers.
☉ —— 9.	36	57 29	206 06	29,65	38	37	S. S. W.	
☽ —— 10.	37½	57 56	208 48	29,25	37½	36	W. by S.	Little wind, and thick, with rain.
♂ —— 11.	35	58 18	212 47	28,65	36	36	W. S. W.	Moderate wind, with snow at times.
☿ —— 12.	35	58 40½	215 20	28,5	38	36	S. W.	Light winds, and cloudy.
♃ —— 13.	36	58 45	216 39	28,55	41	37	Variable.	Ditto, with snow.
♀ —— 14.	37	58 45	217 50	28,55	37	38	W. S. W.	Little wind, with drizzling rain.
♄ —— 15.	39½	58 48½	221 46	29,0	38½	38½	West.	Brisk wind, with snow at times.
☉ —— 16.	39	58 50½	225 40	29,5	40	40	Ditto.	Brisk winds, with snow.
☽ —— 17.	39	59 5½	229 31	29,7	43	41	Ditto.	
♂ —— 18.	39	59 11	234 37	29,4	41	41½	N. W.	Strong wind, with showers.
☿ —— 19.	42	59 25	241 05	28,75	41	40	W. N. W.	Ditto, and flying clouds.
♃ —— 20.	43	59 52	245 39	28,45	41½	42	N. N. W.	Moderate wind, and thin clouds.
♀ —— 21.	38	60 9½	247 20	28,35	41½	40	S. E. by S.	Little wind, and cloudy.
♄ —— 22.	40	59 31	249 07	28,75	42½	40	S. ½ E.	Little wind, and flying clouds.
☉ —— 23.	40	59 15	251 54	28,5	42	41	S. by E.	Brisk wind, and squally at times.
☽ —— 24.	41	59 33½	255 26	28,85	38½	40		Little wind, and hazy.
♂ —— 25	43	60 18	259 30	29,2	43	42	North.	Brisk wind, and very hazy.
☿ —— 26.	41½	60 48	263 02	29,55	43	42	N. N. W.	Brisk wind, and foggy, with rain.
♃ —— 27.	41	61 13	266 45	29,3	41½	41½	N. W.	Little wind, and very foggy.
♀ —— 28	41	61 46	270 50	29,05	42	41	W. N. W.	Brisk wind, and foggy at times.
♄ —— 29.	41	61 50	275 34	29,3	42	42	N. N. W.	Ditto, and cloudy, with showers.
☉ —— 30.	43½	61 34½	280 40	29,35	41	41½	W. N. W.	Brisk wind, and fair weather.
☽ —— 31.	41	61 20	287 44	29,4[illegible]	39½	41½	N. W. by N.	Moderate wind, and heavy rain.
♂ Feb. 1	41	61 02	291 31	29,4	41	41½	W. N. W.	Brisk wind, and thick, with rain.
☿ —— 2.	41	60 41½	295 55	29,25	42	41	Ditto.	Moderate wind, and cloudy.
♃ —— 3.	41	60 36	302 47	29,6	41	41	W. by N.	Brisk wind, with rain.

1774.	Morn Thermometer	Noon Latitude South ° ′	Noon Longitude East of Greenwich ° ′	Noon Barometer	Noon Thermom.	Even Thermometer	Winds	Weather &c.
♀ Feb. 4	36	60 32	307 06	29,65	39	37	N W	Moderate wind, and hazy
♄ —— 5	37	60 18	310 58	29 55	37	37½	N N W	
☉ —— 6	36½	60 16	312 40	28,9	38	35	E N E	Briſk winds with ſnow at times
☽ —— 7	35	59 17	315 02	29,35	41	36	S E	Little winds and hazy
♂ —— 8	37	58 30	317 20	29,8	37½	37	N W	Briſk winds ditto
☿ —— 9	35	57 20	320 18	29,85	37½	38	S W	Moderate wind, and foggy
♃ —— 10	39½	56 58	322 3	30,05	41½	38½	N N W	Ditto, and cloudy
♀ —— 11	39	56 22	324 24	29,85	41	39½	Ditto	
♄ —— 12	41	55 28	325 47	29,3	40	36½	N W by W	Strong wind, with drizzling rain
☉ —— 13	38	54 38	327 56½	29,35	41	39	N W	Briſk wind, with thick fog
☽ —— 14	38½	54 22	330 0	29,6	42	40	N N W	Little wind, ditto
♂ —— 15	39	54 11	333 0	29,3	40½	39	N W	Briſk wind, ditto
☿ —— 16	38½	54 02	336 09	29,2	39½	38½	S E	Moderate wind, & foggy, with rain
♃ —— 17	39	54 10	338 57	29 55	38	38	N E	Moderate wind and thick clouds
♀ —— 18	40	54 12	340 16	29 35	40	40	North	Little wind, foggy with rain
♄ —— 19	39	54 0	341 57	28 95	40	37	E S E	Briſk wind, and foggy weather
☉ —— 20	36	53 20	343 56	29 65	37	38	S W by S	Ditto, cloudy
☽ —— 21	39	53 24	346 50	29,1	39½	38½	W S W	Ditto, squally
♂ —— 22	37	53 11	349 37	29,95	40	39	Weſt	Light winds, and fine weather
☿ —— 23	38½	53 04	352 29	29,7	39	39	Weſt	Briſk wind and thick weather
♃ —— 24	40	52 47	355 43	29 45	39	39½	W N W	Strong wind, and foggy
♀ —— 25	39	53 16	358 17	29,3	38½	38	Weſt	Ditto, with ſnow
♄ —— 26	37	53 35	0 3	29,2	33	36	E S E	Little wind, ditto

Here, having made a complete revolution round the Globe 360° of Longitude were dropped, and a day repeated

1774.	Morn Thermometer	Noon Latitude South ° ′	Noon Longitude East of Greenwich ° ′	Noon Barometer	Noon Thermom.	Even Thermometer	Winds	Weather &c.
♄ —— 26	37	53 27	3 8	29,6	37	37	W by S	Saw the Southern lights, but not very bright
☉ —— 27	35	53 54	5 27	29 7	40	34	North	Briſk wind and fine weather
☽ —— 28	34	54 0	5 52½	29 0	35	36	E S E	Little wind and hazy
♂ March 1	34½	53 46	7 41	29,15	35½	34	N W	Ditto, ſnow and rain
☿ —— 2	35	54 4	9 51	29 2	35½	34½	W N W	Briſk wind, ſnow and rain
♃ —— 3	34	53 18	11 40	29 45	35	34½	Weſt	Ditto, cloudy
♀ —— 4	37	52 42	11 31	-9,0	39½	36	N W by N	Ditto fair
♄ —— 5	37	50 44½	12 39	29,9	38	39	N N W	Strong wind and heavy rain
☉ —— 6	43	49 55	14 30	29,6	42	40	Ditto	Ditto, cloudy
☽ —— 7	38	48 32	14 1	29,85	41	39	Weſt	Ditto, rain
♂ —— 8	38	47 37	13 52	29,95	40	38	N W by N	Little wind, and flying clouds
☿ —— 9	45½	45 41	14 27½	29 85	4 ½	46	W by N	Briſk wind, and cloudy
♃ —— 10	47½	43 14	14 50	29 7	50	49	W S W	Strong wind, with ſqualls of rain
♀ —— 11	47½	41 48	14 19	30,05	55	46	S S W	Briſk wind and flying clouds
♄ —— 12	61½	41 16	14 34	29,6	64	58	N N W	Little wind, and cloudy
☉ —— 13	64	39 59	15 14	29,6	60	61	W by N	Briſk wind with rain
☽ —— 14	64½	37 32½	16 4	29 7	65½	62	W S W	Little wind and fair weather
♂ —— 15	65½	35 31½	16 4	30 20	59	68	S W	Briſk wind, and ditto
☿ —— 16	67	34 37	16 51	30 05	69½	68½	S E by S	Little wind, and fine weather

1774.	Morn. Thermometer.	Noon. Latitude South. ° ′	Noon. Longitude East of Greenwich. ° ′	Noon. Barometer.	Noon. Thermom.	Even. Thermometer.	Winds.	Weather, &c.
♃ Mar. 17.	68½	34 13	17 42	30,0	69½	69	W. S. W.	Little wind, and fine weather.
♀ —— 18.	68½			29,95	61	67	N. E. by N.	Little wind, and thick fog.
♄ —— 19.	68	At the Cape of		29,90	72	66	N. N. W.	Little wind, and clear.
☉ —— 20.	69	Good Hope.		30,05	61	67	W. by N.	Strong wind, and squally weath.
☽ —— 21.	62			30,02	62	61	N. by W.	
♂ —— 22.				29,96	70		East.	
☿ —— 23.				29,92	70½		E. by S.	Little wind, and fine weather.
♃ —— 24.				30,0	70		Ditto.	
♀ —— 25.				30,1	68		S. E.	Strong wind, and clear weather.
♄ —— 26.				30,04	68		N. W.	Little wind, and fine weather.
☉ —— 27.				30,11	65½		Ditto.	Brisk wind, with rain.
☽ —— 28.				30,18	63		S. E.	Strong wind, and flying clouds.
♂ —— 29.				30,1	63½		Ditto.	Ditto, and hazy.
☿ —— 30.				30,13	66		N. W.	
♃ —— 31.				29,95	68		Variable.	Little wind, and fine weather.
♀ April 1.				30,0	68		North.	
♄ —— 2.				30,06	65		E. by S.	Little wind, and hazy.
☉ —— 3.				30,08	64½		N. W.	Little wind, and fine weather.
☽ —— 4.				30,08	67		Ditto.	
♂ —— 5.				30,1	66		E. N. E.	Strong wind, and ditto.
☿ —— 6.				30,0	72		S. E.	
♃ —— 7.				30,04	69		Ditto.	
♀ —— 8.				30,04	67		Ditto.	Strong wind, and hazy weather.
♄ —— 9.				29,99	67		Ditto.	
☉ —— 10.				29,89	67		Ditto.	
☽ —— 11.							Ditto.	Ditto, and fine weather.
♂ —— 12.							E. S. E.	Little wind, and cloudy.
☿ —— 13.							N. W.	Brisk wind, and flying clouds.
♃ —— 14.							Ditto.	
♀ —— 15.	66			30,1	67½		E. S. E.	
♄ —— 16.				30,1		72	N. N. W.	Little wind, and fine weather.
☉ —— 17.	64	33 13	17 31	30,15	65	66	S. S. E.	
☽ —— 18.	67	32 49	16 54	29,8	64	67	Variable.	Little wind, and much rain.
♂ —— 19.	64	33 5	16 7	29,9	66	69	N. N. W.	Ditto, and flying clouds.
☿ —— 20.	64	32 34	16 7	30,1	71	64	S. S. E.	Ditto, and fine weather.
♃ —— 21.	63½	31 13½	14 20	29,85	70	65	Ditto.	Brisk wind, and ditto.
♀ —— 22.	63½	30 16	13 0	29,85	66½	64	W. N. W.	Little wind, and ditto.
♄ —— 23.	65	29 15	13 23½	30,0	66	64	N. W. by W.	Ditto, and flying clouds.
☉ —— 24.	66	27 44½	11 43	30,0	66	65	South.	Brisk wind, and flying clouds.
☽ —— 25.	65	26 13	9 36	29,9	67	66	E. S. E.	
♂ —— 26.	66	24 57	8 28	30,0	69½	67	S. S. E.	
☿ —— 27.	66	23 48	7 12	29,9	70	67	S. S. W.	Little wind, and fine weather.
♃ —— 28.	66½	22 49	6 19	29,9	69½	67	South.	
♀ —— 29.	69½	21 53	5 18	29,9	75	68	S. E. by E.	

1774	Morn. Thermometer	Noon Latitude South	Noon Longitude East of Greenwich	Noon Barometer	Noon Thermom.	Even. Thermometer	Winds	Weather &c.
♄ April 30	69	21 22	3 31	30,1	77½	67	S E by E	
☉ May 1	69	20 52	2 40½	30 1	74	69	S E	
☽ —— 2	69	20 22½	1 57	29 9	70½	68	S W	
♂ —— 3	69¼	19 32½	1 13	30,0	74½	69	W S W	Little wind, and fine weather
☿ —— 4	70	19 27	0 50	30 0	76	69	S S E	
♃ —— 5	71½	18 47½	0 0	30,05	73½	69	S E	
			West					
♀ —— 6	70½	17 40	1 29	30,0	73½	69	Ditto	
♄ —— 7	71½	16 49	2 37	29,95	75	69	S S E	Brisk winds, and fine weather
☉ —— 8	71½	15 48	3 38	30,0	74½	69	S E	Brisk wind, and cloudy
☽ —— 9	71½	14 49	4 54	30,15	73	70	Ditto	Little wind, ditto
♂ —— 10	73	13 22½	6 34	30,15	75	71	Ditto	Brisk wind, ditto
☿ —— 11	74	12 2½	8 8½	29,8	77½	72	S E by S	
♃ —— 12	75	10 43	9 26	30,0	77	73	S S E	Brisk wind, and flying clouds
♀ —— 13	76	9 14	10 59	29,95	80	74	S E	
♄ —— 14	75	7 55½	12 30	30,0	80½	77	Ditto	
☉ —— 15	78	6 33½	14 17	29,85	81½	81	Ditto	Brisk winds, and fine weather
☽ —— 16	78½	5 14	15 45	29,9	82½	82	Ditto	
♂ —— 17	79½	4 0½	17 10	29 9	78½	80	S E by E	Brisk wind, with showers
☿ —— 18	78½	2 35½	19 2	30,0	81½	80	S E	
♃ —— 19	77	0 58¼	19 55	30,0	80	78	Ditto	Brisk wind, and fine weather
		North						
♀ —— 20	76	0 21	20 35	29,9	80	77	S E by S	Little wind, and cloudy
♄ —— 21	77	1 24¼	21 0½	30,0	80	78	S by E	
☉ —— 22	80	2 54¼	21 32	29,95	82¼	80	S S E	Gentle breezes, and fine weather
☽ —— 23	79	4 5	22 1	30,0	83	80	N E	
♂ —— 24	78	4 37	22 17	29,95	79	80	E S E	Light winds, with showers
☿ —— 25	78½	5 27	22 17	30,1	82	79	E by N	
♃ —— 26	79	5 56	22 52	29,95	82	79	N E	Light winds, and fine weather
♀ —— 27	77	5 59¼	24 34	30,0	81½	79	Calm	
♄ —— 28	75	6 11¼	24 57	29,9	81	80	S by W	
☉ —— 29	75	6 38	25 33	29,95	79	75	Calm	Cloudy, with heavy showers
☽ —— 30	75	6 41	25 0	30,0	76	75	Variable	
♂ —— 31	77	6 37	25 20	30,0	79½	76	Ditto	Little wind, and heavy rain
☿ June 1	79½	6 48	24 57	30,0	81½	78	Ditto	
♃ —— 2	79	7 7¼	25 37½	30,0	80½	79	N N E	Little wind, and fair weather
♀ —— 3	79½	7 11	25 50	30,0	81	79	Ditto	Brisk wind, with rain
♄ —— 4	78½	7 39	26 45	30,0	80	78	N E by N	Light winds, and clear weather
☉ —— 5	77½	7 59	27 11	30,0	79½	79	North	Ditto, and cloudy
☽ —— 6	77	8 14	27 54	30,0	81	78	N E by E	Little wind, and fine weather
♂ —— 7	78	9 15	28 51	30,0	80	79	Ditto	
☿ —— 8	77	10 29	30 06	29,9	79½	77	Ditto	Brisk wind, and flying clouds
♃ —— 9	77	11 51	31 12	29,95	79½	77	Ditto	Ditto, and cloudy
♀ —— 10	76	13 18½	32 31	30,05	77½	76	N N E	Ditto, and flying clouds

	1774.	Morn. Thermometer.	Noon. Latitude North. ° ′	Noon. Longitude Weſt of Greenwich. ° ′	Noon. Barometer.	Noon. Thermom.	Even. Thermometer.	Winds.	Weather, &c.
♄	June 11.	74	14 42	33 51	30,0	76½	75	N. E.	Briſk wind, and ſqually.
☉	—— 12.	74	16 23½	34 44	30,0	76	74	Ditto.	Ditto, and fine weather.
☽	—— 13.	73½	17 44½	35 37	30,0	75	74½	N. E. by E.	
♂	—— 14.	74	19 13½	36 16	29,95	77	75	E. by N.	Light winds, and flying clouds.
☿	—— 15.	75	20 49½	36 37	30,05	76	75	E. N. E.	Squally, with ſhowers of rain.
♃	—— 16.	75	22 22	37 35	30,15	77½	76	N. E. by N.	Light winds, and cloudy.
♀	—— 17.	76	23 45	38 23	30,05	79	77½	N. E. by E.	Gentle breezes, and fair weather.
♄	—— 18.	76	25 9½	39 13	30,25	77½	76	Ditto.	
☉	—— 19.	75	26 34	39 11	30,2	77½	75	E. S. E.	Briſk wind, in ſqualls.
☽	—— 20.	75½	28 0	39 0	30,3	76½	75½	S. E.	Little wind, and thin clouds.
♂	—— 21.	74½	29 17½	39 24	30,25	76½	77	E. N. E.	Briſk gales, and ſqually.
☿	—— 22.	75	30 54	39 36	30,3	75	75	Eaſt.	Briſk wind, with ſhowers.
♃	—— 23.	75	32 39½	40 05	30,3	74	74½	E. by N.	
♀	—— 24.	72½	34 23½	40 29	30,45	73½	74½	Ditto.	Gentle winds, and fine weather.
♄	—— 25.	71½	35 56	40 29	30,45	73½	73	Ditto.	
☉	—— 26.	71	37 12	40 20	30,35	72	72	E. S. E.	Little wind, and cloudy.
☽	—— 27.	71	37 45½	39 32	30,3	73	71	S. E. by S.	Gentle breezes, and fine weather.
♂	—— 28.	71	37 53	40 10	30,4	76	72	Variable.	
☿	—— 29.	72	38 40	39 40	30,4	74½	72½	W. N. W.	
♃	—— 30.	73	39 13	39 0	30,4	76	73	Weſt.	
♀	July 1.	73	40 6	37 24	30,3	74½	73½	N. W. by W.	Briſk wind, and cloudy.
♄	—— 2.	69	40 51	35 55	30,15	76	71	Eaſt.	Light winds, with rain.
☉	—— 3.	70	41 33	35 0	30,1	70½	71½	N. W. by N.	Briſk winds, in ſqualls.
☽	—— 4.	72	42 44	32 32	30,1	72	70	Weſt.	Briſk wind, and cloudy.
♂	—— 5.	72	44 1	29 57	30,0	71	69	Weſt.	
☿	—— 6.	67	45 45	27 18	29,8	65	66	S. W.	Strong wind, and ſqually.
♃	—— 7.	56	47 10	23 58	29,85	59	59	W. N. W.	Very ſtrong wind, and ditto.
♀	—— 8.	57½	48 5½	20 41	29,9	58	57½	N. W.	Briſk wind, and fine weather.
♄	—— 9	57	49 9	17 19	29,95	57	58	Ditto.	Strong wind, with heavy ſhowers.
☉	—— 10.	57	49 22	15 55	29,95	58	57	Ditto.	Little wind, and cloudy.
☽	—— 11.	57	49 27½	11 31	30,1	61	56	Ditto.	Ditto, and fine weather.
♂	—— 12.	58	49 35½	8 1	29,9	60	54½	S W.	Briſk wind, and thick rainy weather.
☿	—— 13.	57	50 6½	5 20	29,9	57	53	W. N. W.	Little wind, and hazy.
♃	—— 14	55	At Spithead.		29,95	54	66	N. W. ½ N.	Briſk wind, and ſqually.

ASTRONOMICAL OBSERVATIONS,

FOR

Determining the LATITUDE of the Ship and her LONGITUDE,

BY TWO WATCHES:

One made by Mr. KENDALL, on Mr. HARRISON's PRINCIPLES, and the other by Mr. ARNOLD.

Made on Board his MAJESTY's Sloop RESOLUTION,

In her late Voyage on Difcoveries towards the South.

1772.	Time by Watch K. H ′ ″	Time by Watch A. No. 3. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude W. by K. ° ′	Longitude W. by A. ° ′	Latitude North. ° ′	Thermom. A.	Thermom. B.	No. of ☉'s	Remarks.
☉ July 12.	20 19 50⅓	20 17 59⅓	37 39⅓	4 22⅓	4 06½	50 15¼	66	61	3	
☽ —— 13.	Noon.		61 28¼				65	61¼		
	5 24 21½	5 22 15	22 56	4 34⅓	4 15	49 44¼			4	
♂ —— 14.	20 10 14	20 7 5	35 38	5 4⅓	4 23¼	49 11			5	
☿ —— 15.	Noon.		62 25			48 50	65	64		
	4 59 45¼	4 56 22½	27 25¼			48 34⅓			4	
♃ —— 16.	Noon.		63 37			47 28⅓	63½	61		
	4 53 25	4 49 21	29 23⅙			47 14			3	
♀ —— 17.	Noon.		64 30¼			46 24⅔	67	70		
	19 14 01	19 8 54	24 18⅔			46 37½			5	
	21 0 24		42 11						3	
	22 45 51		57 42						3	
♄ —— 18.	19 30 49	19 25 0	26 30⅔			45 35⅓	67	63	3	
☉ —— 19.	Noon.		65 12			45 20	66	64½		
☽ —— 20.	Noon.		66 27½			43 54	66½	66		
♂ —— 21.	Noon.		66 40			43 30	67	66		
	19 57 50	19 49 48	29 51			43 41⅓			2	
	21 50 4⅔	21 41 52⅓	49 47			43 40			5	
	22 18 11⅓	22 10 5⅓	54 25⅓			43 38½			3	
☿ —— 22.	Noon.		66 23			43 35	67	65½		
	5 18 6⅔	5 9 45⅔	25 41			43 26		69	3	
	19 2 41	18 53 53½	19 15½			42 41⅓			6	
♃ —— 23.	Noon.		67 28			42 18	65	64½		
	19 17 13⅔	19 7 38⅓	20 25⅓			40 32	63	65½	5	
♀ —— 24.	Noon.		69 31			40 2	67	66¼		
♄ —— 25.	Noon.		71 40			37 40	70½	70		
	6 3 48¼	5 53 4¼	19 02			37 6⅔			4	
☉ —— 26.	Noon.		73 36			35 31½	71	72½		
	5 32 42⅓	5 21 11	25 45½			35 07			5	
	21 56 24¼	21 44 14¼	48 50¼			33 56¼			4	
☽ —— 27.	Noon.		75 10			33 43	71	72		
	20 0 18	19 47 18½	23 35⅙			32 54	73	72½	3	

When the last Observations were taken, the island of *Porto Sancto* bore N. W. by N. distant about four miles.

♂ —— 28.	Noon.		75 50			32 48¼	73	72½		

♃ —— 30. I carried both Time-keepers on shore at Fonchial, on the island of Madeira, and compared them with the Astronomical Clock, (see p. 6.) from whence I find that Mr. Kendall's was losing at the rate of 1″,77 a day on mean time, and gave the longitude of the place 12° 50′ 14″ west of Drake's Island, or 17° 6′ 22″ west of Greenwich. Mr. Arnold's (No. 3.) was losing 56″,9 a day on mean time, and gave the longitude 9° 59′ 41″ west of Drake's Island, or 14° 45′ 49″ west of Greenwich.

☉ Aug. 2.	Noon.		75 03			32 21⅙	73½	76½		
	5 56 28,4	5 38 12.4	21 30 1/10			31 52¼			5	
	20 8 35⅓	19 50 36	23 30⅓			30 14⅔	73½	73	3	
☽ —— 5	Noon.		77 25½			29 42 7/12	74½	77		

1772.	Time by Watch K.	Time by Watch A. No. 3.	Altitude of the ☉'s L. L.	Longitude W. by K.	Longitude W. by A.	Latitude North.	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
	H ′ ″	H ′ ″	° ′	° ′	° ′	° ′				
♂ Aug. 4.	Noon.		78 15			28 $37\frac{1}{2}$	$74\frac{1}{2}$	75		
	3 56 $50\frac{1}{3}$	3 36 6	48 $16\frac{2}{3}$			28 $28\frac{3}{5}$	—	$76\frac{1}{2}$	6	
	6 43 9	6 22 $17\frac{1}{2}$	11 $56\frac{2}{3}$			28 25			3	
☿ — 5.	Noon.		78 $40\frac{1}{2}$			27 $55\frac{1}{4}$	$74\frac{1}{2}$	76		
	4 12 31	—	45 4	18 $53\frac{1}{5}$	—	27 $38\frac{1}{4}$		$77\frac{1}{2}$	3	
♃ — 6.	Noon.		80 $12\frac{1}{2}$			26 $7\frac{1}{2}$	$75\frac{1}{2}$	78		
	20 23 33	19 59 $14\frac{1}{2}$	23 $50\frac{1}{3}$			24 33	74	$74\frac{1}{2}$	3	
♀ — 7.	Noon.		81 56			24 $6\frac{1}{4}$	76	79		
	20 1 47	19 36 $4\frac{1}{2}$	18 $9\frac{1}{2}$			22 $29\frac{3}{4}$	73	73	3	
♄ — 8.	Noon.		83 28			22 7	$74\frac{1}{2}$	79		
	20 20 $42\frac{2}{3}$	19 53 $35\frac{4}{5}$	21 $21\frac{1}{5}$			20 $29\frac{1}{4}$	$74\frac{1}{2}$	76	3	
☉ — 9.	Noon.		85 $22\frac{1}{2}$			20 $5\frac{1}{2}$	75	78		
	20 24 27,4	19 55 52,4	20 $45\frac{3}{10}$			18 $27\frac{3}{5}$	$75\frac{1}{2}$	$75\frac{1}{2}$	5	
☽ — 10.	Noon.		87 9			18 1	77	79		
	20 42 25	20 12 26	23 56	22 $36\frac{1}{6}$		16 29	$77\frac{1}{2}$	78	3	
♂ — 11.	Noon.		88 41			16 10,4	79	82		
	7 4 38	6 34 $01\frac{1}{2}$	7 $22\frac{7}{8}$	23 1		15 $47\frac{1}{2}$	—	—	4	
	20 38 22	20 6 57	22 $11\frac{1}{3}$	23 $10\frac{7}{8}$		15 $10\frac{5}{6}$	78	80	3	
♃ — 13.	Noon.		89 $22\frac{1}{4}$			14 53	$80\frac{1}{4}$	82		
♀ — 14.	Noon.		89 $2\frac{1}{4}$			14 $54\frac{3}{4}$	81	81		
♄ — 15.	20 52 5,4	20 15 35	25 $13\frac{4}{5}$			12 35	80	80	3	
☉ — 16.			88 $37\frac{1}{2}$			12 $19\frac{1}{8}$	81	81		
	20 22 21	19 43 36	18 $16\frac{2}{10}$			11 $56\frac{1}{4}$			4	
☽ — 17.	22 51 37	22 11 17	55 $36\frac{4}{5}$						3	
	0 28 46	23 48 26	79 $15\frac{2}{3}$				81	82	3	
♂ — 18.			88 $19\frac{1}{4}$			11 $22\frac{2}{3}$	81	82		
	20 10 $45\frac{3}{4}$	19 29 $12\frac{1}{4}$	16 $56\frac{6}{7}$			10 50	$80\frac{1}{2}$	80	7	
☿ — 19.	1 50 $20\frac{1}{2}$	—	79 38						3	
	3 59 $45\frac{1}{2}$	—	48 $2\frac{2}{3}$						5	
♀ — 21.	Noon.		86 $33\frac{1}{2}$			8 37	79	79		
	22 30 0	21 44 32	53 $13\frac{3}{5}$			7 55			3	
♄ — 22.	Noon.		86 7			7 50	$80\frac{1}{2}$	80		
	4 53 32	4 7 42	31 $12\frac{7}{10}$			7 $41\frac{1}{3}$			5	
	20 6 50,6	19 20 12,6	19 $18\frac{1}{3}$			6 $57\frac{1}{3}$	79	80	5	
☉ — 23.	Noon.		85 $25\frac{1}{2}$			6 $48\frac{1}{2}$	80	80		
	20 50 45	20 3 47	31 $21\frac{1}{2}$			6 29	$78\frac{1}{2}$	78	4	
☽ — 24.	Noon.		85 $21\frac{1}{4}$			6 $23\frac{1}{4}$	80	79		
♂ — 25.	Noon.		85 13 : :			5 54	80	$80\frac{1}{2}$		
☿ — 26.	Noon.		84 46			5 $6\frac{1}{2}$	79	$76\frac{1}{2}$		
	20 22 $13\frac{1}{2}$	19 30 $26\frac{1}{2}$	27 $42\frac{9}{10}$			4 $18\frac{1}{2}$	78	78	4	
♃ — 27.	Noon.		84 14 : :		East.	4 13	79	$80\frac{1}{2}$		
	4 52 $22\frac{1}{4}$	4 0 $8\frac{1}{4}$	24 $26\frac{1}{10}$			4 $8\frac{1}{2}$			4	
	20 8 $41\frac{1}{2}$	19 10 39	24 $36\frac{3}{10}$			3 $43\frac{1}{4}$			4	
♀ — 28.	Noon.		84 4			3 $42\frac{1}{2}$	78	77		
	5 4 $7\frac{1}{2}$	4 10 35	19 $58\frac{1}{4}$			3 41			4	
	19 29 37	18 35 16	17 $29\frac{2}{3}$			3 $16\frac{1}{2}$			3	

1772.	Time by Watch K. H ′ ″	Time by Watch A. No. 3. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude W. by K. ° ′	Longitude E. by A. ° ′	Latitude North. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♄ Aug. 29.	Noon.		83 52			3 9¼	77½	78		
	5 3 41	4 8 49	18 33¼			3 0¼			4	
	19 17 36	18 21 51	16 10½			2 38½			5	
☉ —— 30.	Noon.		83 40½			2 35⅛	77½	77		
	5 8 34½	4 12 49½	15 22			2 35⅔			2	
	19 54 40	18 57 33	27 17½			2 33			3	
☽ —— 31.	Noon.		83 59½			2 33,2	79	78½		
	19 18 16½	18 19 43½	18 22⅔			2 4	78	77	7	
♂ Sept. 1.	Noon.		83 46½			1 58½	78	79		
	3 40 27½	2 41 26½	35 44			1 54½			2	
	19 40 34½	18 40 42½	23 19½			1 27⅙			4	
☿ —— 2.	Noon.		83 31½			1 21½	78	78		
♃ —— 3.	19 20 50½	18 18 36	15 47⅔			0 57½			5	
♀ —— 4.	Noon.		83 45			0 60½	76	75		
	2 36 11	1 33 34	54 42½			0 49			6	
	3 16 46	2 14 9	44 48			0 49			6	
♄ —— 5.	Noon.		84 10			0 53½	75½	76		
	3 9 36	2 5 50½	46 33			0 54½			7	
	4 7 16	3 3 40	31 58			0 54½			4	
☉ —— 6.	Noon.		84 12½			0 33½	76	75		
	4 9 58½	3 4 56½	30 32¼			0 31			8	
						South.				
☽ —— 7.	19 22 26	18 15 1	16 42½			0 10½			3	
♂ —— 8.	Noon.		84 6			0 18	76½	76		
	19 42 53	18 33 48½	20 59½			0 51½			4	
☿ —— 9.	Noon.		83 48			0 59	76	75		
	19 55 48		23 2			1 53	75	74½	4	
♃ —— 10.	Noon.		83 10			2 0	76	75		
	19 27 17½	18 14 49	14 28¼			2 55⅝			5	
♀ —— 11.	Noon.		82 27½			3 5½	76	76		
♄ —— 12.	Noon.		81 44			4 11⅞	77	76½		
	4 7 1	2 54 37	34 52 9/10			4 18½			4	
	19 58 19	18 42 41	20 21			4 58¾			4	
☉ —— 13.	0 45 38		80 48						3	
	3 10 35		50 16½			5 12			3	
	20 22 24	19 6 30½	25 12½			6 23⅝	75	75	4	
☽ —— 14.	Noon.		80 10			6 32¼	76	76½		
	5 27 44	4 9 51½	17 13⅞			6 52½			4	
♂ —— 15.	Noon.		78 49			8 16½	75½	77		
	21 4 34	19 43 41	33 40½			9 17¼			3	
☿ —— 16.	20 32 34	19 10 9	25 9½		West.	10 55			3	
	21 55 19		43 50½						3	
	23 54 23		71 10⅗						3	
♃ —— 17.	Noon.		76 48			11 4	75	73½		
	20 7 29	18 43 40	18 23			12 12⅙			4	
	21 24 13½	20 0 20	36 50⅘			12 16⅙			14	

1772	Time by Watch K	Time by Watch A No 3	Altitude of the ☉ s L. L.	Longitude West by K	Longitude West by A	Latitude South	Thermom A	Thermom B	No of Obs	Remarks
	H ′ ″	H ′ ″	° ′			° ′				
♀ Sept 18	Noon		75 44½			12 31¼	75	73½		
	21 58 48	20 39 24	43 58½			13 56			3	
	23 33 46½		64 39¼						4	
	0 36 33		73 59½						3	
♄ — 19	Noon		74 32			14 07	74	72½		
	5 9 37	3 43 42½	24 47½			14 15½			4	
	20 18 32	18 57 37	19 31¼			15 24	72	72	6	
	22 1 39½	20 34 34½	43 47			15 29			6	
☉ — 20	Noon		73 24			15 38	73	72¼		
☽ — 21	Noon		72 12			17 14	73	71		
	21 31 20½	20 2 6½	35 18⅞			18 30			10	
♂ — 22	Noon		71 2½			18 46¼	74	75		
☿ — 23	Noon		70 0½			20 12¼	73	73		
	6 7 10	4 36 2	12 59⅞			20 28			6	
	21 36 40	20 4 37	36 19½			21 24			6	
♃ — 24	Noon		69 1			21 35¼	72	72		
♀ — 25	Noon		68 5			22 54½	71	70½		
	20 20 55	18 46 0½	16 55⅔			24 3	69	69	4	
♄ — 26	Noon		67 6			24 17	72	73		
	5 25 38	3 50 13½	23 40½			24 21			4	
	20 12 50½	18 36 49½	15 23			24 40½	69	69¼	5	
☉ — 27	Noon		67 2			24 44¼	71	74		
	6 17 57½	4 41 16½	12 0¼			24 50			7	
	20 46 55	19 9 28	23 18½			29 19¼				
☽ — 28	Noon		66 40½			25 29½	71½	72		
	20 10 46	18 32 6	16 5⅞			26 8	69	67		
♂ — 29	21 35 6	19 54 54½	36 38¼			26 53¼			4	
☿ — 30	Noon		68 58			26 58½	71½	71½	4	
	5 27 48	3 47 7	19 42½			27 4¼			5	
	20 19 14	18 37 49½	22 16½			27 23¼			5	
♃ Oct 1	Noon		65 52			27 27½	71½	71		
	3 59 37½	2 17 38	37 17½			27 29			5	
	4 4 28	2 23 28½	35 59⅞			27 29			6	
	4 38 47½	2 56 09	29 1			27 28½			5	
	21 34 52½	19 52 2	39 35¼			27 35½			4	
♀ — 2	Noon.		66 4½			27 38½				Sextant made by Ramsden
			66 2½			27 40½	68½	65¼		Ditto by Dollond
	3 12 36¼	1 29 19¼	46 3½			27 44½			6	
♄ — 3	Noon		65 57			28 9½	66½	67¼		
	3 26 30	1 41 56	41 59			28 14½			4	
	21 19 35½	19 34 5	39 47⅞			28 54			4	
☉ — 4	Noon		65 27½			29 2½	64½	62		
	20 39 57	18 53 13	33 11¼			29 9			4	
☽ — 5	Noon		65 51½			29 0⅛	62½	61		
	4 4 33	2 17 26½	30 5¼	11 13½		28 54½			14	Hazy

1772.	Time by Watch K.	Time by Watch A. No. 3.	Altitude of the ☉'s L. L.	Longitude West by K.	Longitude West by A.	Latitude S.	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
	H ' "	H ' "	° '	° '	° '	° '				
☽ Oct. 5.	22 7 10	20 19 9	50 47¼			29 40			4	
♂ —— 6.	Noon.		65 27			29 48¼	64	61½		
	20 13 5	18 23 56¼	27 25			31 2¼			4	
☿ —— 7.	Noon.		64 17¼			31 21	63½	60¼		
	4 29 14	2 39 41	25 50			31 28¼			4	
♃ —— 8.	Noon.		63 16			32 45½	63½	62		
	4 12 25½	2 21 30½	28 48½			32 56¼			6	Very hazy.
	20 23 45	18 31 47¼	30 44¼			33 49			5	
♀ —— 9.	Noon.		62 24			34 0½	63½	61		
	20 4 32¼	18 11 11¼	28 27			34 20¼			4	
♄ —— 10.	Noon.		62 16¼			34 28½	63½	62		
	5 6 46¼	3 12 57¼	15 5½			34 31½			7	
	19 35 3¼	17 40 30¼	23 50½			34 42½			4	
☉ —— 11.	Noon.		62 25			34 44½	63	63½		
	4 13 29	2 18 34¼	25 2⅞			34 46¼			4	
	6 24 12	The Moon rose about two-thirds eclipsed.								
	6 53 24	End by Mr. Gilbert: naked eye.								
	6 53 51	Ditto, by Captain Cook: common ship's spying-glass.								
	6 54 57	Ditto, by W. Wales: a six inch achromatic telescope of Dollond's make, magnifying four times. Apparent time 6 h. 58′ 56″.								
	6 55 23	Ditto, by Dr. Forster: a two feet achromatic telescope of Ramsden's making.								
	6 55 30	Ditto, by Lieutenant Pickersgill: common three feet refracter.								
	7 4 0	I could see nothing of the penumbra with the glass that I used.								
	20 1 12	18 4 0½	29 42⅜			34 51⅛			4	
☽ —— 12.	Noon.		62 40			34 51⅛	63	63		
	4 56 3½	2 59 54	16 9⅔			34 52			7	
♂ —— 13.	Noon.		62 40			35 14¼	64	65½		
	19 33 18	17 35 11	27 2½			35 30	60½	61	4	
☿ —— 14.	Noon.		62 44¼			35 32¼	63½	61		
	19 23 3¼	17 23 41	26 49⅞			35 37			5	
♃ —— 15.	Noon.		63 1	East.		35 37⅔	62	62		
	19 6 19	17 5 44	25 59⅞			35 19½	60½	59	5	
♀ —— 16.	Noon.		63 43½			35 17	63	61		
	18 44 43	16 42 55	23 42 $\frac{9}{10}$			35 1	59	57	5	
♄ —— 17.	Noon.		64 23¼			35 0	61½	59		
	4 6 38½	2 3 26	18 17⅓			34 39½			5	
☉ —— 18.	Noon.		65 6½			34 37½	59½	60½		
	3 2 47¼	0 59 30	29 21⅓			34 35½			4	
	19 24 2	17 19 57	35 37½			34 29½			5	Very cloudy.
☽ —— 19.	Noon.		65 46½			34 19	60½	57		
	4 2 14	1 57 42½	16 56½			34 23¼			5	
	18 32 21	16 27 6	25 30½			34 41¼			5	
	18 52 13¼	16 46 57½	29 34			34 41⅜			4	
♂ —— 20.	Noon.		65 38½			34 48⅔	63¼	62½		
	18 13 21	16 6 57	21 42⅔			35 20½	63	60½	6	

1772	Time by Watch K H ′ ″	Time by Watch A No. 3 H ′ ″	Altitude of the ☉'s L. L	Long. East by K °	Longitude East by A	Latitude S	Thermom. A	Thermom. B	[illegible]	Remarks
♂ Oct. 20	20 15 37	18 9 7	45 54			35 26			6	
☿ —— 21	Noon		65 9			35 39	65+	63		
	4 29 12½	2 22 18½	11 54			35 49			7	Very hazy
	19 38 27	17 30 49	39 6	8 0⅕	33 49⅕	36 44¼			5	Very uncertain
♃ —— 22	Noon		64 17			36 52¼	64	60		
	18 26 26½	16 17 43½	25 50	8 53⅕	34 55⅕	37 12	62	58	5	
♀ —— 23	Noon		64 18			37 12¼	63	64		
♄ —— 24	Noon		65 13			36 38	59	61¼		
	2 47 29	0 36 51½	29 30⅕	11 32⅗	38 58⅕	36 30¼	57	54	4	
	20 42 37½	18 21 2	54 2			35 45			5	
☉ —— 25	17 51 36	15 38 42	23 50⅗	14 9⅗	41 3⅕	34 53¼	59	58	4	
☽ —— 26	Noon		67 52¼			34 39½	60	62		
	2 38 29	0 25 4	29 31⅗	14 26⅗	41 27⅗	34 29			4	
	18 4 13½	15 49 56	27 21¼	14 59⅗	42 10⅞	33 44	62	59	4	
♂ —— 27	Noon		69 9			33 43	64	60		
	18 51 22½	16 35 39	27 57			33 39			5	
☿ —— 28	Noon		69 31			33 41⅓	66	67		
	3 27 44½	1 11 29	18 5⅗			33 45			7	
♀ —— 30	Noon		69 56			33 56	62¼	65		

☽ Nov. 2. Carried both Watches on ſhore at the Cape Town, and compared them with the Clock B, by which the times of equal altitudes were noted, (See p. 14.) and found that Mr. Kendall's was too ſlow for mean time, that day at noon, by 1 h. 31′ 4″,7, from which taking 1′ 11″ on account of its going 5 8ths of a ſecond a day too ſlow, and being ſet 7 10ths of a ſecond too faſt for mean time, there will remain 1 h. 29′ 53″,7 = 22° 28′ 25″½ for the longitude of the Cape Town Eaſt of Drake's Iſland; that is 18° 12′ 18″ Eaſt of Greenwich, or 0° 10′ 57″ leſs than the truth.

The Watch A (No. 3.) was too ſlow for mean time, the ſame day at noon, by 3 h. 54′ 25″,9 from which taking 28′ 7″,9 on account of its going 11″,63 a day too ſlow, and being likewiſe ſet 10″½ too ſlow for mean time at Drake's Iſland, we ſhall have 3 h. 26′ 18″ = 51° 34′½ for the longitude of the Cape Town Weſt of Drake's Iſland by this Watch; that is 47° 18′¾ Eaſt of Greenwich, or 28° 55′ more than the obſervations of Meſſrs Maſon and Dixon make it. The former of theſe Watches was going 1″,2 a day too faſt for mean time, when here, and the latter 1′ 30″,642 too ſlow; and at theſe rates I ſuppoſed them to go until our arrival at Duſky Bay, in New Zealand. I alſo ſuppoſed the longitude of the Cape Town to be 18° 23′½ Eaſt of Greenwich.

I have to add, that in carrying the Watches on board the ſhip at this place, the Watch A (No. 3.) ſtopped. I went on board in the long boat, by choice, thinking it would be leſs liable to motion or accidents than a leſs, and ſat in the ſtern ſheets, with a watch on each ſide. In laying the boat along ſide the ſhip, the Coxſwain let her ſtrike, but not ſo hard as to give me any apprehenſions at the time; however on getting aboard, I found that this watch had ſtopped, and can aſſign no other cauſe. On the 17th I ſet it a going, and at 1 h. 2′ 31″½, by Mr. Kendall's Watch, it ſhewed 1 h. 5′ 0″: and I found it 1 h. 29′ 39″,2 too ſlow for mean time at the Cape on the 18th at noon.

1772.	Time by Watch K. H ′ ″	Time by Watch A. No. 3. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East by K. ° ′	Longitude East by A. ° ′	Latitude S. ° ′	Thermom. A.	Thermom. B.	No. of ☉	Remarks.
☉ Nov. 22.	3 10 29	3 6 3	24 14½	About 3 or 4 miles N. N. E. true off the Obſervatory.					4	
	17 12 59	17 7 54	22 9½	17 51⅞	17 29	34 11⅙	65	62	5	
☽ —— 23.	Noon.		75 44¼			34 36½	66	65		
	3 7 9	3 1 35	25 48⅞	17 43¾	17 23¾	34 51½			4	
	17 39 19½	17 33 3	27 57⅛	18 10¼	17 47¼	35 16½	67	62	4	
♂ —— 24.	Noon.		75 9½			35 20½	65½	63½		
	3 7 2	3 0 28	26 2⅔	17 43¾	17 19¼	35 32⅝			4	
	17 49 36	17 42 7	29 6⅛	16 47⅛	16 5¼	36 49½	64	62	4	
☿ —— 25.	Noon.		73 30½			37 14	66	64		
	3 27 2	3 19 4	23 31½	16 29⅛	16 0¼	37 39½			4	Very hazy.
	17 55 28	17 46 41½	29 34¼	15 39½	15 10	38 46¼	67¼	66¼	4	
♃ —— 26.	Noon.		71 52½			39 3½	69	69½		
	2 50 18	2 40 9½	31 48⅙	15 30	14 55¼	39 20			4	
	17 41 16	17 31 22	27 43	16 17¼	15 37½	39 55½	60	53	5	
♀ —— 27.	Noon.		71 1½			40 5⅛	60	53		
	2 31 44½	2 21 26	34 39⅞	16 39¼	16 0¼	40 17¾				
♄ —— 28.	Noon,		70 18½			40 58½	62	59¼	4	
	17 38 21	17 26 8	27 16½	16 28⅛	15 40	41 56	57	52½	5	Very dubious.
☉ —— 29.	Noon.		69 19::			42 8	60½	51		Great ſea.
☽ —— 30.	Noon.		69 15::			42 21	58½	55		Ditto.
	4 28 6½		13 4¼	18 2⅛		42 28			1	Very doubtful.
♂ Dec 1.	18 24 25½	18 8 22	37 11¼	18 22	17 21¾	43 34	56	46	5	
☿ —— 2.	20 35 49	20 18 24½	59 1½	18 27	17 22	44 24½			6	
♃ —— 3.	Noon.		67 37½			44 25½	55	49		
	4 12 45½	3 54 27	16 39	18 25	17 26¼	44 43			5	
	17 53 48	17 35 17	31 52½	18 32	17 24	45 23⅝	52¼	43¼		
♀ —— 4.	Noon.		66 26			45 45	53	44½		
	2 25 56	2 5 36	35 30⅔	18 34⅞	17 25¼	46 0			6	A great ſea.
	18 6 34½	17 52 50½	33 48⅙	18 14¼	17 0⅞	46 48½	46	50½	5	
♄ —— 5.	Noon.		65 9			47 9½	48	52		
☉ —— 6.	Noon.		63 51::			48 34½	50	38		Foggy.
	3 0 25	2 39 12	29 41⅙	18 27¼	17 5	48 45			5	
☽ —— 7.	Noon.		62 43			49 49	47	42½		Very uncertain.
☿ —— 9.	Noon.		62 59:			49 45	44	36		
	17 43 0	17 16 42	31 42½	21 8⅛	19 37⅛	50 51½	41½	34	4	
♃ —— 10.	Noon.		61 44½			51 4¾	44½	36½		
	17 56 8½	17 28 30½	33 49	21 24½	19 42½	51 37⅝	42	32¼	4	
♀ —— 11.	Noon.		61 4½			51 49⅔	50½	34		
	1 56 52¼	1 28 44½	38 9½	21 47½	20 14	52 0⅛			4	
☉ —— 13.	20 13 12⅔	19 41 21	51 29⅒	22 9½	20 29	54 53			6	
☽ —— 14.	Noon.		58 10½			54 55½	49½	33		
	1 59 5	1 26 57½	37 7¼	21 59½	20 9¼	54 57			5	
☿ —— 16.	17 58 18	17 22 28½	34 50⅔	23 34¼	21 48¼	55 8½			5	
♃ —— 17.	Noon.		57 57¼			55 16	53⅔	33½		
	5 48 45½	5 12 14½	5 7 9/10	24 43½	22 55	55 8½			10	
♄ —— 19.	4 44 47	4 5 33½	12 8¼	26 4¼	24 12⅔	54 15		31½	10	

1772	Time by Watch K (H ′ ″)	Time by Watch A No. 3 (H ′ ″)	Altitude of the ☉'s L L	Longitude East by K (° ′)	Longitude East by A (° ′)	Latitude S	Th A	mom B	No of Obs	Remarks
☉ Dec 20	18 14 2	17 32 35¾	40 17⅓	29 24	27 28¾	53 51½	42	32½	4	
	19 23 1	18 41 31¼	49 24⅜	29 25	27 28¼	53 55⅚		33	4	
☽ —— 21	Noon		59 6¼			54 10 1/7	50	33¼		
	2 15 10		31 29¾	29 50		54 30		34½	4	
	18 18 48	17 35 58¼	41 4	30 20¼	28 22¼	55 5⅙	46	32½	5	Bad horizon
♂ —— 22	Noon		58 22¼			54 54	52	33		
☿ —— 23	Noon		57 50			55 25¼	59¼	31		
	17 42 2	16 56 28	36 18 9/10	31 42¼	29 40	56 23	49	32½	5	
♃ —— 24	Noon		56 42¼			56 31¼	57	35		
♄ —— 26	Noon		54 39			58 31⅓	52	31½		
	4 12 15	3 23 16	17 58	26 13⅜	24 20¼	58 32		32		
	5 27 37¼	4 38 18	9 4¼	26 13⅞	24 8	58 32			5	
	19 4 0	18 14 10	42 11	24 43¾	22 35¾	58 22	47½	33½	3	
☉ —— 27	Noon		54 47¼			58 20	54	36	5	
	2 37 25	1 47 8	30 49¼	25 19¼	23 11¼	58 20				
☽ —— 28	Noon		54 20			58 44¼	50	35	5	
	2 45 49¼	1 54 4	31 42	21 25⅞	19 16⅜	58 53				
♂ —— 29	Noon		53 48¾			59 12	48	33¼	5	
☿ —— 30	Noon		53 33¼			59 23 1/10	56½	36½		
	2 24 07	1 29 51	36 37	20 30¼	13 15⅝	59 27			5	
1773 ♄ Jan 2	4 6 48	3 7 35¼	27 0¼	10 19¼	8 5¼	58 52			9	
	4 29 13¼	3 30 3	24 3¼	10 26	8 12¼	58 52			5	
☽ —— 4	Noon		53 27¼							
☿ —— 6	17 34 52	16 28 47	30 42⅜	27 36¾	25 14¼	59 1⅙	52	33		
	17 41 47	16 35 42	31 33⅛	27 36⅛	25 14	60 33⅙	44	34	4	Hazy
	19 40 49	18 34 38	44 39⅙	27 57⅞	25 35	60 33⅙	44	34	5	Ditto
♃ —— 7	Noon		51 26¾			60 36			5	Good
	19 9 38	18 1 56¼	42 38⅙	31 58¼	29 42¾	60 40⅙	51	35		
						61 18	45	34	5	
♀ —— 8	19 9 38 22 2 24		42 38⅙ 50 26⅞	☉ N 57 E Ship's course S E at 5 miles an hour		61 22	53	34¾	5 4	
♄ —— 9	16 55 0	15 45 53	28 40¾	34 30¼	32 15¼	61 36	49½	33¼	5	
	Noon		50 15			61 36	56½	35		
	19 18 16½	19 22 34¼	44 2⅞	35 56	33 42	61 54			5	
☉ —— 10	19 18 16½ 23 57 10½		44 2⅞ 42 10	☉ N E by E Ship's course S at the rate of 3 miles an hour		62 0	55	34	5 5	
☽ —— 11	16 52 5	16 39 46	29 2¾	36 58¾	34 45⅞	63 2⅜	40½	34	4	
	16 38 17¼	15 24 22¼	27 37¼	38 5¼	35 53¾	64 11	60	35	5	
♂ —— 12	19 16 27½	18 2 23¼	42 26⅝	37 53¾	35 41½	64 11			5	
	Noon		47 11¼			64 11	56	35		
☿ —— 13	18 14 22	16 58 45	37 20	38 35	36 24¼	64 16¾	49	34½	5	
	Noon		46 56			64 16¼	50½	38		Bad horizon

1773.	Time by Watch K. H ′ ″	Time by Watch A. No. 3. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East by K. ° ′	Longitude East by A. ° ′	Latitude S. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☿ Jan. 13.	17 0 24½	15 43 6½	29 55 3/7	38 47½	36 40½	64 1			6	
	17 9 5	15 51 47	30 49 2/7	38 44	36 36½	64 1			6	
♃ — 14.	Noon.		47 5			63 57	57	35½		
	1 39 20½	0 21 26	29 27½	39 7¼	37 01½	63 54⅛			5	
	17 1 25	15 42 25½	30 4⅛	39 7⅛	37 2¼	63 35½	52	35	5	
	18 8 45	16 49 58½	36 55½	38 55¼	36 51½	63 32			6	
	18 30 50	17 11 23¼	38 59½	39 4½	37 0½	63 32			6	
♀ — 15.	Noon.		47 18			63 32⅝	58½	42		
	3 28 41½	2 8 56½	17 26	38 51⅞	36 49¼	63 31½			5	
	19 6 49½	17 45 57	41 3⅞	38 43⅞	36 42½	64 23			5	
♄ — 16.	Noon.		46 8½			64 31	56	35		
	3 22 45	2 1 16½	18 11	38 55⅛	36 55¼	64 55⅝	60	34½	6	
	18 32 39	17 10 7½	36 57⅔	38 52	36 53¼	66 21½		33½	5	
☉ — 17.	Noon		43 51			66 36⅗	51¼	34		Very foggy.
	18 9 23	16 45 18	34 53 9/10	38 49½	36 51⅛	66 14	46	32	5	Ditto.
☽ — 18.	Noon.		44 16			65 59½	52	34¼		Exceeding foggy.
	2 43 24½	1 18 46	22 7⅖	38 43½	36 45½	65 36¼		33	5	
	17 18 19	15 52 44	36 44⅛	39 18¼	37 21⅞	64 41½	45	35	3	
♂ — 19.	Noon.		45 33⅛			64 29	51¼	35		
	2 41 36½	1 15 24	21 47¼	39 33⅞	37 36¼	64 17½		34½	4	
	16 56 9	15 29 1	28 29	39 36⅛	37 39⅛	64 16	48	33¼	5	
☿ — 20.	1 32 13½	0 4 31½	29 3⅗	39 53¼	37 53¼	63 47		33¼	5	
	16 55 17	15 26 33½	28 49	40 28	38 31½	63 1½	43	35	3	Very cloudy.
♃ — 21	Noon.		46 50 : :			62 46¼	53½	35¼		
	21 53 6½		46 17½	Ship's Course E. N. E. 4 knots. ☉ N. 20° E. at 2d Observation.		62 47¼			5	
	23 46 10		38 58						5	
	2 44 54	1 16 30	20 15⅔	41 15⅛	39 20¼	62 28½	56½	35⅝	7	
	17 10 26½	15 40 8½	31 33⅓	42 21¼	40 40¼	61 48	44	35½	5	
♀ — 22.	Noon.		47 48½			61 33⅝	54	37¼		
			47 50			61 32½				
	16 59 49	15 27 56½	31 44½	45 13	43 18	60 21½	47	35	6	
♄ — 23	Noon.		49 5⅛			60 2½	51½	36¼		
	1 19 13	23 46 50	27 50	46 33½	44 38½	59 41¼		35¼	5	
☉ — 24	Noon.		50 29½			58 24¼	51¼	34¼		
	0 51 44½	23 17 53	30 5½	49 14½	47 19¼	57 59½	55	34¼	4	
♂ — 26.	16 9 21½	14 30 16	28 1 1/10	50 41	48 48¼	56 46	41	35¼	5	
	17 44 42½		40 11¾	Ship's Course N. E. by E. 4 knots.		56 31			4	
	20 18 47		51 3½						4	
☿ — 27.	Noon.		51 40¼			56 28	51¼	35		
	23 48 11½	22 9 33	37 15½	51 10	49 18¼	56 15	52	36	5	
	23 57 47½	22 19 9	15 59½	51 18¼	49 26½	56 14½	52	36	3	
	0 23 52½	22 44 14	32 48¾	51 8⅞	49 16½	56 13⅛	52	36	5	
	2 24 36	0 45 50½	16 4 1/10	51 9¼	49 18¼	56 6⅛			5	
	16 5 55½	14 26 13½	28 8½	51 41¼	50 5	55 1	47	38	5	

1773	Time by Watch K H ′ ″	Time by Watch A No 3 H ′ ″	Altitude of the ☾'s L L	Longitude East by K ′	Longitude East by A ′	Latitude S	The ... A	B	°	Remarks
♃ Jan 28	Noon		53 24¼			54 28	51	36		Ramsden's Quad
			53 24			54 28				Dollond's Quad
♀ — 29	Noon		55 7			52 29	53	38		
♄ — 30	16 9 16	14 24 35	31 46⅘	57 3⅙	55 17	51 13	48	39	5	
☉ — 31	20 33 31		55 55	☉N 37° W at the 2d Observat Ship's Course N N E 5 m an h						
	2 53 6¼		43 14			50 50				
	15 46 30	14 0 11	28 33	57 29⅞	55 46	49 17½	47	40	5	
☽ Feb 1	Noon		57 54¼			48 51	54	41		
♂ — 2	17 18 15¼	15 30 11	44 4⅞	59 38	57 56¼	48 33½	48	43	4	
	Noon		57 52			48 36	56	45		
	0 5 20¼	22 16 48	30 42	60 3¼	58 22	49 0⅙		46½	1	
	15 44 39	13 54 59	30 20⅘	61 19¼	59 39¼	48 45⅙	51	43	5	
☿ — 3	15 46 1¼	13 54 34	29 17⅓	59 50	58 14¼	49 4	52	42	5	
♃ — 4	Noon		56 38			49 15	56	46		
	0 1 47	22 9 44	31 19	59 11⅓	57 38⅗	49 30	58	44	5	
	1 48 20¼	23 56 9	14 9	59 19¼	57 45¼	49 37	60	43½	9	
	16 3 7	14 9 54	31 15	59 0⅞	57 29	49 15	53	40	5	
♀ — 5	Noon		56 28			49 7	59¾	41		
	0 37 46	22 44 2	25 39	58 50¼	57 18	48 40⅓	57	41	4	
	17 54 17¼	15 59 28	47 42	58 44⅙	57 11¼	48 6	51	43	5	
♄ — 6	23 1 52		40 24⅞	59 35		48 6		44	5	
	15 12 57	13 16 46	24 27	61 38⅞	60 6	48 39	48	44	5	
☉ — 7	Noon.		56 6¼			48 51¼	54	44		Ramsden's Quad
			56 7			48 51				Dollond's Quad
	0 23 53	22 27 6	24 56⅓	62 41⅓	61 9	49 4	63	45	5	
☽ — 8	18 42 25	16 42 39	52 23⅗	64 27		50 0			5	
♂ — 9	Noon		54 18			50 1¼	57	45		
	15 36 37¼	13 35 23	29 19	64 44¼	63 18	49 51⅙	48	40	5	
	17 1 4	14 59 43	41 47⅓	65 59	64 33					
☿ — 10	Noon		53 54			50 6	52	41		
	23 44 31	23 42 45	28 11⅓	68 22¼	64 33	50 23	53	41	5	
♃ — 11	20 54 57		48 19¼	Ship's Course S by E 7 miles an hour ☉N 42 W at 2d Obs		51 22			4	
	23 50 37		27 18¼						6	
	23 50 37	21 47 12	27 18¼	68 22¼	66 58	51 34⅓			6	
	14 26 10	12 21 44	20 47	70 2	68 32	52 28			5	
	15 18 8	13 14 40	28 42	70 4⅙	68 41⅙	52 31⅓			5	
	15 39 46	13 35 16	31 39⅗	70 5¼	68 42	52 32			5	
♀ — 12	Noon		50 33			52 47	56¼	38		Ramsden's Quad
			50 32¼			52 48¼				Dollond's Quad
	23 45 52	21 40 48	23 55¼	70 59⅓	69 37	52 20		38	5	
	13 15 44	11 39 41	15 44⅘	72 12⅙	70 50¼	53 34			5	
	14 22 51	12 16 43	21 15	72 14⅗	70 53	53 37	48	35	5	

1773.	Time by Watch K. H ′ ″	Time by Watch A. No. 3. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude E. by K. ° ′	Longitude E. by A. ° ′	Latitude S. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♄ Feb. 13.	Noon.		49 6½			54 54½	55½	36		
	23 51 28¼	21 44 45	21 14½	73 25⅙	72 4¼	54 9½	57½	38¾	5	
☉ —— 14.	23 46 6¼	21 37 46½	20 0¼	74 23⅓	73 06½	55 40⅔	56	36	7	
	15 4 47¼	12 55 25½	29 7½	78 28	77 9¼	56 35½	54½	35	5	Very hazy.
	17 6 26		41 51½	Ship's course S. S. E. 7½ miles an hour.		56 53			4	
☽ —— 15.	19 39 58¼		44 2½						5	
	23 38 6		18 27⅔	80 8⅞	78 50¼	57 4	55	36¼	5	
	16 39 17	14 28 0	29 41½	Ship's course E. two miles an hour.		57 16	46	35	5	
♂ —— 16.	19 46 4		42 36⅓						5	
☿ —— 17.	13 43 18	11 28 58	19 36	82 47	81 34¼	57 53⅛	44	32	4	
	13 59 51½	11 45 34	21 49	82 54½	81 42	57 54	44	32	2	
♃ —— 18.	Noon.		43 21			57 57	53	33		
	23 43 28½	21 28 34	14 32½	84 32½	83 7½	58 2⅔	56½	33	5	
♀ —— 19.	Noon.		42 27:			58 30	52¾	35		
	13 48 1	11 30 32½	23 35½	90 43⅞	89 33¼	58 47⅛	43½	32½	5	
♄ —— 20.	Noon.		41 49½			58 46¼	54½	35		Ramsden's Q.
			41 48½			58 47¼				Dolland's Q.
	23 33 10	21 15 2	11 26⅞	91 38⅞	90 28⅞	58 46⅛			9	
☉ —— 21.	13 15 5	10 54 21	19 56½	93 21¼	92 14	59 18⅓	45½	34	3	Very cloudy.
♂ —— 23.	Noon.		38 29:			61 1⅓	54¾	35		Ditto.
☿ —— 24.	15 37 27		33 19	Sun N. 80 E. Ship's course S. E. 2 miles an hour.		60 49	56	36½	5	Very hazy.
♃ —— 25.	18 11 7½		37 34½						4	
	22 17 39	19 51 19	17 16½	95 27⅛	94 26¼	60 49½	57¼	36¼	5	
	12 40 59½	10 13 37	16 2⅔	97 7⅜	96 8⅛	60 58⅙			4	
♀ —— 26.	Noon.		37 15¾			61 8	57	36¼		
♄ —— 27.	12 52 6¼	10 21 27½	20 5	103 41¼	102 46	60 3	45	35¼	4	
☉ —— 28.	Noon.		37 41¾			59 57½	50½	36½		
☿ March 3.	Noon.		36 14½::			60 16⅓	55	38		
	19 9 58	16 34 17	29 0⅒	110 5⅞	109 11	60 13¼			5	
♀ —— 5.	Noon.		35 6¼:			60 38⅔	55½	37¼		
	19 44 27½	17 5 24	21 58	116 58⅓	116 0	60 26⅗				
♄ —— 6.	20 37 31	17 56 38	15 11⅓	118 34⅓	117 47½	59 56⅓	54	37	7	
☉ —— 7.	11 8 12	8 24 33½	20 27½	120 35	119 53¼	59 44	46¼	35¼		
☽ —— 8.	Noon.		34 51¼			59 44	54¾	40		Dollond's Q.
			34 52			59 43⅓				Ramsden's Q
	19 48 57½	17 4 43	19 8	120 39¼	120 6¼	59 44¼			5	
♂ —— 9.	Noon.		35 17⅔:			58 55½	51⅓	37		
☿ —— 10.	Noon.		35 43			58 6	48½	35		
	11 12 30¼	8 24 7½	17 47	129 15½	128 34¼	57 53¼	44	35	4	
♃ —— 11.	15 46 13		34 54⅔	Ship's course S.E. 6¼ miles an h. ☉ N. 17° W. at 2d Observat.		58 10½			4	
	17 7 31		30 52¾						4	

1773	Time by Watch K H ″	Time by Watch A No 3 H ″	Altitude of the ☉'s L L ′	Longitude Eaſt by K	Longitude Eaſt by A	Latitude South	Thermo A	Thermo B		Remark
♃ March 11	10 44 30	7 54 29½	14 28$\frac{1}{10}$	130 49½	130 10¼	58 55	47	37	5	
♀ —— 12	Noon		34 7			58 55	56+	39		
♄ —— 13	Noon		33 57			58 12	53+	36		
	18 32 33	15 40 2	20 41$\frac{9}{10}$	133 14¾	132 37¾	58 43	3	35	5	
☉ —— 14	Noon		33 54			58 21	51	33		
	18 37 5½	15 43 15	18 45½	135 52½	135 17½	58 23			5	
	11 56 21½	9 1 20½	24 41½	138 32½	137 58¼	58 58	41	31	5	
☽ —— 15	Noon		32 48			59 4	50	31		Rain ... Q
			32 47½			59 4¼				Dillon ... Q
	10 9 28½	7 13 0	14 7$\frac{1}{6}$	141 21½	140 48¼	58 52$\frac{1}{6}$	41	35+	1	
	12 22 20	9 25 45½	27 42¼	141 49½	141 15¼	58 52			4	
	12 30 43½	9 34 9	28 18½	141 45½	141 11¼	58 52			6	
♂ —— 16	Noon		32 37			58 51¼	53	35		
	18 57 8½	16 0 7	15 56½	143 7½	142 34¼	58 53	55+	36	5	
☿ —— 17	19 8 21		8 33½	146 43½		58 3			1	
♃ —— 18	Pocket Watch	14 48 35½	33 26½	Ship's courſe N E. by N 6¼ miles an hour		56 26½			2	
		16 31 53	26 36½						5	
	17 50 26	14 50 16	17 19$\frac{7}{8}$	149 30½	148 59¼	56 8				
♀ —— 19	9 37 30	6 34 43	16 45½	153 3¼	152 34	53 43$\frac{7}{8}$	51	45+	5	
♄ —— 20	Noon		36 31½			53 22	54	45		
	17 56 48½	14 53 27	14 29$\frac{9}{10}$	154 16¼	153 47¼	52 48				
☉ —— 21	10 45 24	7 39 16	29 18½	158 14½	157 48½	50 11			5	
☽ —— 22	Noon		39 12½			49 55	56+	47	4	
	17 15 34	14 8 36	18 20½	158 52¼	158 27½	49 30			5	
	9 7 6	5 59 19½	17 57	160 14½	159 52	48 3	51	47	5	
♂ —— 23	Noon		40 58½			47 45	58	49		
	17 13 24½	14 5 3	17 44	161 8½	160 45¼	47 30	58	49	5	
☿ —— 24	16 58 51	13 48 39½	18 53½	163 9½	162 47¼	46 23	60	54+	1	
♃ —— 25	Noon		41 42¼			46 14	58	54		
	8 40 55	5 28 12½	16 52¼			45 51	56	52	4	

♄ —— 27 We got moored in Duſky Bay, New Zealand; but the place was ſo inconvenient, the weather ſo bad, and I had ſo much wood to clear away before I could erect my Obſervatory, that I did not get the Clock agoing before that day ſevennight afterwards. On ♂, April the 6th, I compared both Watches with it, (See p. 25 and 26) and continued to do ſo every day until the 22d, from whence I found that Mr Kendall's was gaining at the rate of 6″,726 a day on mean ſolar time, and that of Mr Arnold's (No 3) 101″,051. Reckoning from the Cape of Good Hope, at the rates they were going when there, the former made the Longitude of the Obſervatory, at this place, 165° 12′ 37″, and the latter 165 38 35 Eaſt of Greenwich. If we reckon all the way from Drake's Iſland, in Plymouth Sound, at the rates the Watches were going when at Greenwich, Mr Kendall's will give the Longitude of the Obſervatory 168° 3′ 16″¼ Eaſt of Drake's Iſland, and Mr Arnold's 247° 51′ 24″; that is 163 47 9″, and 243 35 16 Eaſt of Greenwich. As the Watch made by Mr Arnold ſtopped at the Cape of Good Hope, it may be neceſſary to ſhew how I have made theſe deductions from it. On No

1773.	Time by Watch K.	Time by Watch A. No. 3.	Altitude of the ☉'s L. L.	Longitude East by K.	Longitude East by A.	Latitude S.	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
	H ′ ″	H ′ ″	° ′	° ′	° ′	° ′				

vember 14th, at noon, it was 4 h. 12′ 33″,61 too flow for mean time at the Cape, and it was then lofing at the rate of 90″,642 a day; wherefore it ought to have been too flow for mean time on the 18th, at noon, by 4 h. 18′ 36″,2; but as I then found it only 1 h. 29′ 39,″2 too flow, it is plain that it had been fet fafter than it would otherwife have been by 2 h. 48′ 57″. If from this we fubtract 1 h. 5′ 36″, what it would have been too flow according to its Greenwich rate of going, and what it was fet too flow for mean time at Drake's Ifland, there will remain 1 h. 43′ 21″ for what it fhould be too faft for mean time at Drake's Ifland on ♂ April the 6th, at noon, by the time at Dufky Bay; which being added to 14 h. 48′ 4″,6, what it was that day actually too flow for mean time at that place, gives 16 h. 31′ 25″,6=247° 51′ 24″ for the Longitude of Dufky Bay, Eaft of Drake's Ifland, as above.

It appeared, moreover, that the Watch made by Mr. Kendall was too flow for mean time at Dufky Bay, on ☉ April 25th, at noon, by 11 h. 13′ 7″,3; and that made by Mr. Arnold, (No. 3.) by 15 h. 20′ 5″,8. On thefe fuppofitions, and that the true Longitude of the Obfervatory was 166° 18′ Eaft, I computed the Longitudes of the fhip between this place and Queen Charlotte's Sound.

1773.	Time by Watch K.	Time by Watch A. No. 3.	Altitude of the ☉'s L. L.	Longitude East by K.	Longitude East by A.	Latitude S.	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♂ May 11.	Noon.		26 21¼			45 34¼	58	44¼		
	16 51 49¼	12 17 40	5 32⅓	165 55	165 35⅓	45 26¼			5	
♃ —— 13	10 18 0		22 12¼	170 18¼		41 54			4	
♀ —— 14.	Noon.		29 17¼			41 52½	65½	58		
	16 38 36¼	11 59 39¼	6 20¼	170 28	170 1⅛	41 49			5	
	16 47 33	4 7 35	11 17⅙	170 59¼	170 29¼	41 19	61	53	5	
♄ —— 15.	Noon.		29 43¼			41 13	62	56		
☉ —— 16	8 19 47	3 36 20½	8 9⅘	172 38⅕	172 4¼	40 25⅖	56	51¼	5	
	9 50 45		20 54⅞	172 35¼		40 29⅒				
☽ —— 17	Noon.		29 55			40 33⅞				
			29 55⅓			40 33¼				
♂ —— 18.	Noon.		29 12⅕			41 3				

Although we anchored in Queen Charlotte's Sound the 18th, I did not attempt carrying any Inftruments on fhore there before the 24th, being all that time in daily expectation of leaving it; but feeing then no likelihood of going foon, I carried the Aftronomical Quadrant on fhore at a beach near the fhip, and was fortunate enough to get equal altitudes that day, the 30th, and June 3, (fee p. 48, 49.) I noted the times by Mr. Kendall's Watch, and compared Mr. Arnold's (No. 3.) with it. The comparifons were,

1773.	Watch K.			Watch A.	
	H	′	″	H	′
☽ May 24.	13	46	8¼	8	50
☉ —— 30.	15	3	16¼	9	57
♃ June 3.	12	45	6¾	7	32

Hence I found that the former was now gaining at the rate of 9",05 and the latter losing at the rate of 94",158 a day on mean time The former, allowing its Dusky Bay rate, gave the difference of Longitude between this place and that 7 26 40 and allowing its rate of going as determined now 7 45′ 54 that is 173 44 39 and 174 4 3″ East of Greenwich If the rate which Mr Arnold's Watch was going at when at Dusky Bay be allowed it will make the difference of Longitude between those places 6 40 56″ and by allowing the rate it was going at here 7 31 24 that is 172 59 5″, and 173 52 33 between this place and Greenwich If then Greenwich rates be allowed them all the way from England, the Watches will place Queen Charlotte's Sound 174 7$\frac{1}{2}$, and 271 50 33″ East of Drake's Island respectively; that is 169 51$\frac{1}{2}$, and 267 34 25 East of Greenwich

May 28th, that lock of Mr Arnold's Watch, which Lieutenant Cooper had the key of, got spoiled; I suppose by a wrong key being given, by mistake to Lieutenant Pickersgill, who attended that day for Lieutenant Cooper to open the box so that on the 29th it could not be opened After unlocking the other two locks, a screw driver was introduced between the box and lid, and the lock forced by turning the screw driver round I am certain no injury did, or could possibly happen to the Watch by doing this The lock being damaged it was taken off and the Watch trusted under the other two until June 3, when we got it repaired and put on again, and Mr Cooper locked it as before I have been thus circumstantial, because when we came to wind the Watch up, June 7th, at noon, I found the fuzee would not turn, and we were obliged to let the Watch go down, and stand ever afterwards

Mr Kendall's Watch was too slow for mean time at Queen Charlotte's Sound, on June 3, at noon, by 11 h 38 17″,97; and in computing the Longitude of the ship by this Watch, in our run from hence to Otaheite, I have supposed its rate to be as above mentioned, and that the true Longitude of the Beach in Queen Charlotte's Sound, where I observed, is 173 46 1 ½, which results from Mr Bayley's Observations made here; and the experiments mentioned on p 49

1773	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉'s L L	Latitude S	Longitude East by K	Thermometer A	B	No of Obs	Remarks
☽ June 7		Noon	25 55½	41 8½		59¾	55		
♂ —— 8	9 6 31½		11 36½	41 48½	174 39½	56	51½	5	
		Noon	25 2½	41 56⅛		58	52		
☿ —— 9	16 1 39		6 30⅓	42 6¼	175 20	60½	52	3	
		Noon	24 1	42 57½		58¾	55		
♃ —— 10	9 41 34½		15 43½	43 49⅝	178 49½	57	53½	6	
		Noon	22 54	43 54¾		60½	54		
♄ —— 12	9 51 59		15 52⅓	46 8					
☽ —— 14	8 53 33½	21 16 18	10 42$\frac{9}{10}$	46 41⅛	185 17½			5	) Very uncertain on
♂ —— 15		Noon	19 44½	46 46⅝				6	} account of the Latit
	14 30 0	2 53 26	9 32$\frac{1}{10}$	46 52		48½	56		
☿ —— 16	9 27 33	21 52 8	4 20	46 22	185 29½	48	56	5	
♃ —— 17		Noon	20 8½	46 18½				4	
	8 38 16					56½	49½		
♀ —— 18		21 9 41	10 27⅓	45 59⅓	187 43⅞	54½	49½	5	
		Noon	20 30½	45 54		55	48		
	14 10 0	2 44 25½	11 14⅞	45 48	188 30½	55	47½	5	
☉ —— 20	8 8 39	21 4 16	11 0⅓	44 26	194 0½	51½	48½	5	

1773.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☽ June 21.		Noon.	21 56⅔	44 26		53¾	50½		
	8 4 41	21 5 31	11 3	44 34½	195 45	53	50½	5	
♂ —— 22.		Noon.	21 47:	44 36		55¾	52½		
	11 12 20½		21 42½	44 35⅔	Ship's course East, 2 miles an hour.			4	
	13 46 55		11 32½					5	
	13 46 55	2 49 53	11 32½	44 37	196 0½			5	
☿ —— 23.		Noon.	21 46	44 37½		56	50½		
	13 53 18	3 1 24	10 13½	44 37½	197 23			5	
	14 6 46	3 14 56½	8 34½	44 37½	197 24			7	
♀ —— 25.	8 7 1½	21 10 52	12 53⅒	43 3½	196 34½	58	54	6	Very cloudy.
♄ —— 26.		Noon.	23 17¾	43 9½		60	55¾		
	13 59 16	3 4 32	10 54⅓	43 17½	196 58⅔			3	Very uncertain.
☉ —— 27.		Noon.	23 55¾	42 34		59	53¾		
☽ —— 28.		Noon.	24 7::			60	52½		Very foggy.
	6 49 18	19 58 28	3 50¼	42 37½	198 11¼	58	51	5	
	7 57 37	21 7 5	12 51⅔	42 39½	198 14½			3	Very cloudy.
♂ —— 29.		Noon.	23 48¾	42 46¼		61½	52¾		
	14 6 56½	3 18 42⅔	9 30	42 54	198 35⅔			5	
	7 30 35	20 43 45	9 40⅔	43 5½	199 15			5	
☿ —— 30.		Noon.	23 32½	43 6		59	51¾		
	7 52 47	21 14 6	13 21½	43 11½	201 22½	55	48	5	
♃ July 1.		Noon.	23 35 23 34½	43 7½ 43 7⅔		56	49		Ramsden's Quad. Dollond's ditto.
	13 37 7	2 59 18	11 51⅔	43 7½	201 36¼	57	49¼	5	
	6 51 48⅔	20 17 51¾	6 25	43 2½	202 40	52½	45	6	
♀ —— 2.		Noon.	23 44½	43 2½		56½	47		
	14 3 30¼	3 31 7	7 55⅓	43 2½	203 1¼			6	
	7 18 54½	20 49 54	10 33½	43 14	203 57⅞	53	48	5	
♄ —— 3.		Noon.	23 33½	43 18		56½	47¾		
	13 51 27	3 25 50	8 27 9/10	43 22⅔	204 42¼	61	49	5	
	9 24 4⅔		21 26⅞						
☉ —— 4.		Noon.	22 58	43 58		54	48¼		
	13 48 54	3 25 12	8 19½	43 48	205 23½	55	49	6	
	7 41 24	21 22 50	14 31⅔	43 18	206 45			5	Cloudy, and great sea.
☽ —— 5.	7 41 24 10 45 2 12 54 20		14 31⅔ 23 36⅝ 14 32 3/10	43 11½	☉ N. 30 E. at 1st obs. and N. 44 W. at 3d. Ship's course E. N. E. 4½ miles an h.			5 3 5	Ditto.
	12 54 20	2 38 45½	14 32⅒	43 5	207 30¼	55½	49½	5	More certain.
	7 3 13½	20 48 10	11 12½	42 19½	207 50¼			5	
♂ —— 6.		Noon.	24 59½	42 7½		56½	51		
	13 26 15	3 13 26½	11 18¼	41 55½	208 16½			5	
	6 21 44¼	20 9 31½	6 37	41 23	208 44¼	55	51	7	Hazy.
☿ —— 7.		Noon.	25 51	41 22		57	52¼		
	13 37 19	3 27 11	9 56⅒	41 22½	208 53¼			5	By Lieut. Clerke.
	7 42 36¼	21 37 28	17 29⅒	41 52½	210 29¼	54¼	51½	5	

1773	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ⊙'s L L	Latitude South	Longitude East by K	Therm. A	Therm. B	No. of Obs.	Remarks
☿ July 7	7 42 36½		17 29 1/10	41 58	⊙ N 42 L at 1st obfervat. Ship's courfe L S I 6 miles an hour			5	
♃ — 8	10 51 9		24 20½					6	
	13 53 43	3 52 8	6 2⅞	42 6½	211 14¼	58	51¼	4	
	6 43 29½		11 8⅞	42 35½	212 43¾			5	
♀ — 9		Noon	24 47	42 39½		54½	51¼		
	13 25 16½		8 39⅜	42 46⅛	213 13¾	58	51	4	
	6 28 57	20 42 1½	9 59½	43 27½	215 2¼			6	
♄ — 10	6 44 49½		13 8¼	43 33½	217 28			6	
☉ — 11		Noon	24 7½	43 34⅙		54	47		
	12 40 9	3 5 3½	11 41⅓	43 32⅓	218 5	55½	47	5	
	6 14 37½	20 44 46	10 37⅓	43 17⅓	219 23	52	47	9	
	6 52 53	21 23 28	15 16⅝	43 17⅓	219 33½			8	
☽ — 12		Noon	24 33½	43 15 9/10					Dollond's Quad
			24 33¼	43 15⅘		54	49		Ramsden's ditto
	13 2 7½	3 34 12½	8 14	43 14⅓	219 57	56	49	6	
	5 46 59	20 21 3	7 46¼	43 2½	220 29	53	47½	6	
	7 3 32	21 38 27	17 13⅓	43 2⅓	220 42½			6	
♂ — 13		Noon	24 56	43 2					Dollond's Quad
			24 56½	43 1½		56½	49		Ramsden's ditto
♀ — 16	13 4 56½		7 34¼	42 57½	221 2½	57	49	4	Very cloudy
		Noon	27 1¼	41 24½		51	46		
	12 40 33	3 28 46	10 53¼	41 11	224 14½				
♄ — 17	6 22 48½	21 17 1½	17 51¼	39 53	225 53¼	51½	46½	5	A great fea
		Noon	28 51½	39 43½				4	
	12 39 49	3 35 49	11 7⅞	39 19	226 15¼	48	44½		
	5 2 41	19 58 53	8 2⅓	38 4½	226 20¼	49½	45	4	
☉ — 18		Noon	30 49½	37 55⅜		49	47½	7	
	12 52 23½	3 41 47½	18 11	37 49	226 24¼	51	49½		
☽ — 19		Noon	32 21¼	36 34¼		53¼	49	7	
	13 1 11½	3 58 30	9 36½	36 25⅓	226 41¼	55½	57		
	4 55 45	19 52 29½	8 38½	35 38	226 35½	57½	53½	7	
♂ — 20.		Noon	33 47	35 20				5	
☿ — 21	13 0 11	3 53 16½	13 2⅓	32 24	225 46½	58¼	58¼		
	4 56 47	19 48 2	10 23⅓	31 23⅛	225 19¼	63	61	5	
♃ — 22		Noon	38 24¼	31 5½		62¼	61	6	Very hazy
	13 9 47	3 59 59	12 55½	30 47⅜	225 5½	64¼	63		
	4 44 28		8 40¼	29 34	224 41¼	65	62¼	6	
♀ — 24		Noon	40 19½	29 22¼		63	61½	7	
☉ — 25	10 26 1		38 8	29 43⅓	223 20¼	66	63½		Cloudy
	12 14 51		24 30½		⊙ N 46 W at 2d Obfervation Ship's courfe N E by L 4 miles an hour				Cloudy
	5 20 45	20 6 4	15 28⅙	28 58¼	224 4	68	66	7	Cloudy
☽ — 26		Noon	41 27¼	28 52¼		69⅓	66½		
	12 2 14	2 48 47	26 42	28 46	224 20	71	67	5	

1773.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude South. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☽ July 26.	12 27 5½	3 13 45	22 41	28 45¼	224 21½			6	
	4 49 51	19 37 3⅓	10 43½	28 1	224 31½	69	61½	5	
♂ —— 27.		Noon.	42 40	27 53¼		70	67½		
	11 50 19½	2 37 43	29 12⅔	27 50½	224 32¼	70	59	6	
	4 55 38		11 1⅞	27 43	224 13¼	69	66	4	Cloudy.
☿ —— 28.		Noon.	43 4	27 43		70	69		
	12 18 25	3 2 24½	25 32¼	27 45	223 46½	70	68	6	
	5 7 1½	19 47 46	13 10⅙	27 38½	222 58¼	69½	68	7	Very cloudy.
♃ —— 29.		Noon.	43 30½	27 30⅔		70¼	69½		
	12 51 57½	3 34 21½	12 22	27 26⅙	223 24	74	70	6	Hazy.
	5 12 53½	19 57 55	15 29⅓	27 8⅙	224 5			5	
♀ —— 30.		Noon.	44 11	27 4⅓		71½	71		
♄ —— 31.		Noon.	45 10¼	26 19½		69¼	68		
	13 47 41	4 36 28½	9 32⅞	26 9⅙	225 3½	69¼	68	8	
☉ Aug. 1.	4 39 55	19 30 55	12 18¼	23 25⅔	225 39	68½	68	5	
☽ —— 2.		Noon.	48 45¼	23 13 9/10		69½	69¼		
	13 6 48	3 57 30	18 54	23 6⅙	225 34¼			5	
	4 30 38	19 22 13	11 5¼	22 21⅙	225 48¼	70½	69¼	5	
♂ —— 3.		Noon.	50 7	22 8⅓		71	71¼		
	13 41 55		12 7⅙	22 0	225 53¼	73¼	72⅔	5	
	4 40 54	19 32 43	13 47½	21 27	225 53½	72	72	5	
☿ —— 4.		Noon.	51 13	21 18		73¼	74		
	13 34 53½	4 28 6	13 46⅔	21 12	226 14½			5	
	6 13 27	21 10 3⅓	33 32½	20 46⅓	227 21¼	77	76½	5	
♃ —— 5.		Noon.	52 7¼	20 29⅓					
	13 59 24½	4 58 22½	7 43½	20 28⅔	227 41¼	80	77½	5	
	4 34 33½	19 34 28½	15 3½	19 54½	227 56½	76½	77	3	
♀ —— 6.		Noon.	53 16	19 47⅓		77½	78		
♄ —— 7.		Noon.	54 28⅓	18 51 1/10		73¼	75		
	5 44 33½	20 29 48	27 42	18 11	224 18½			5	Very cloudy.
☉ —— 8.		Noon.	55 32¼	18 4⅔		74½	75		
	5 28 7½		22 47½	17 44½	222 5½			5	Cloudy.
	6 38 57½	21 14 49	37 2⅓	17 44⅓	221 57¼			6	
☽ —— 9.		Noon.	56 13	17 41⅙		75½	76½		
	5 41 42½	20 8 34	23 54½	17 24⅔	219 57½	76	74¼	4	
	6 53 24	21 20 41	38 30¼	17 24⅙	219 49			4	
♂ —— 10.		Noon.	56 58¼	17 22¼		76¼	78½		
	13 36 41½	4 1 37	21 48¼	17 21	219 13¼	77	77	5	
	5 1 44½	19 21 25	13 53⅓	17 17⅓	217 55	75½	75	3	Very hazy.
☿ —— 11.		Noon.	57 11¼	17 17⅔		77¼	78½		
	13 31 25	3 48 56	24 41	17 17⅙	217 22⅓			5	
	5 24 54½	19 38 9	17 42	17 12½	216 18½	76½	76¼	3	
	5 59 10	20 12 21⅓	25 6	17 12¼	216 17½			5	Hazy.
♃ —— 12		Noon.	57 36½	17 11		78	78⅔		
	14 27 32	4 38 3	14 9	17 11	215 37	78½	79	5	
	5 22 43	19 30 36	10 6¼	17 16½	214 57¼	79	76½	7	

1773	Time by Watch K (H ′ ″)	Apparent Time (H ′ ″)	Altitude of the ☾ & ☉ L	Latitude S	Longitude East by K	Therm. A	Therm. B		Remarks
♀ Aug. 13		Noon	57 49	17 16½		79	77		
	14 28 36	4 34 8	15 6½	17 16	211 22	78½	79	1	
	5 42 57½		19 10½	17 13	213 17½	79	78	7	
♄ — 14		Noon	58 9	17 15		79½	79		
	13 59 4	3 57 51	23 11	17 17	212 40	79	79	4	
	5 13 13	19 7 23	10 59½	17 42	211 31	78	77	5	
	5 37 7	19 31 36	16 26	17 43½	211 37	78	77	4	
☉ — 15		Noon	57 56	17 46		78½	80		
	14 40 58½	4 32 55½	15 26½	17 46	210 57	78½	80	5	
	6 1 27		20 49	17 41		78	79	1	
☽ — 16		Noon	58 17½	17 44		80	80		
☿ — 18	13 59 12	3 48 40	25 12	17 16	210 18	80	80	5	A little dubious
	8 30 52½	22 20 37	50 36	17 46	10 22	79½	79	5	
♃ — 19		Noon	59 12	17 47		81	80		Dollond's Quadrant
			59 13	17 46					Ramsden's Quadrant
	13 15 48	3 5 27	34 48½	17 46	210 19	81	80	6	
	8 37 14	22 27 6	51 51	17 46	10 22	79½	79½	5	
♀ — 20		Noon	59 33	17 46		79½	79		At anchor in Oaitipcha Bay, Otaheite
			59 33	17 45					
	13 18 55½	3 8 40	34 19	17 46	210 20½	81	79½	5	A little uncertain
	8 47 54	22 37 42	53 37½	17 46	210 19½	80	81	5	
♄ — 21		Noon	59 51	17 46		80	82		Dollond's Quadrant
☉ — 22		Noon	60 12	17 46	W. W.	81	81		All with Quadrants made by Ramsden
			60 12	17 46½	Clerke				
			60 11	17 47	Gilbert				
♂ — 24	13 53 9½	3 43 4	27 21	17 46	210 20	81½	80½	5	
		Noon	60 58	17 42		76	75		
	5 4 56½	18 54 26	9 19½	17 29	210 9½	75	74½	5	The Bay S W ⅓ S 6 m.
☿ — 25		Noon	61 31½	17 29		76	78		Dollond's Quadrant
			61 32½	17 28					Ramsden's ditto

About five in the evening we anchored in Matavai Bay, and lost no time in getting up our clocks and instruments. On the 27th I compared the watch K with the clock B, (see p. 52.) and found it too slow for mean time on that day at noon by 13h 50′ 22″,4. Consequently allowing the rate it went at in Queen Charlotte's Sound, it will give the difference of longitude between that place and Point Venus in Otaheite 36° 13′ 10″; or, taking Queen Charlotte's Sound to be in 174° 13′ 30″ East, which is the mean result of all the Observations which have been made there both by Mr. Bayley and myself, it will place Point Venus 210° 26′ 40″ East of Greenwich. If we reckon all the way from Drake's Island at the rate it went at when at Greenwich, before the voyage, it makes Point Venus 206° 5′ 54″ East of Drake's Island; that is, 201° 49′ 47″ East of Greenwich.

The watch was gaining here at the rate of 8″,863 a day on mean time, and was too slow for mean time at Point Venus, on ♂ August 31 at noon by 13h 49′ 47″; on which suppositions, and that the true longitude of Point Venus is 210° 25′ 10″ East, the following longitudes of the ship are computed.

1773.		Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L ° ′	Latitude South. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♃ Sept.	2.		Noon.	64 59¼	16 51½		76½	77		
♀ ——	3.		Noon.	65 28½	16 45		66½	66½		
		15 2 50¼		14 57⅔	16 44¼	208 51⅙	77½	77½	5	
♄ ——	4.		Noon.	65 50⅓	16 45		77	77		Dollond's Quadrant.
				65 51	16 44½					Ramsden's ditto.
		14 46 22½		18 50 9/10	16 44¼	208 52⅙	79	78	5	At anchor in Owharre
☉ ——	5.	14 49 37		18 10 1/12	16 44¼	208 53⅛	79½	78½	2	harbour in Huaheine.
		15 0 26		15 24⅙	16 44¼	208 54	79½	78½	3	
☽ ——	6.		Noon.	66 35¼	16 44¼		77½	79		
♂ ——	7.		Noon.	66 52¼	16 50⅔		79	79½		
♃ ——	9.	14 35 10		22 19¼	16 45⅕	208 24⅒	81	81¼	4	
♀ ——	10.	12 43 22	2 26 56⅓	47 32¼	16 45⅕	208 26⅓			5	
☉ ——	12.		Noon.	68 46⅕	16 45⅓				2	At anchor in Ohama-
		14 41 30	4 25 23	21 5⅔	16 45⅕	208 24 9/10	78	77½	3	neno harbour in U-
		14 44 33	4 28 31⅓	20 21⅕	16 45⅕	208 26⅓	78	77½	3	liatea.
☽ ——	13.		Noon.	69 8 9/10	16 45⅔		78	77	2	
		15 12 46	4 56 54¼	13 48⅕	16 45⅕	208 25⅔	77	76	4	Cloudy.
☿ ——	15.	15 16 56	5 1 31	12 57⅕	16 45⅕	208 26⅓	76¼	75½	5	
♀ ——	17.		Noon.	70 40⅕	16 51⅓		77	78¼		
		13 44 15¼	3 26 40	35 22⅞	16 57¼	207 47¼	77	77½	5	
		5 51 57	19 31 44	21 5⅞	17 10½	207 6	77	77	5	
♄ ——	18.		Noon.	70 38	17 17		78	79		
		15 7 34	4 44 37	17 14⅕	17 22	206 24¼	77¼	79¼	6	
		5 24 10½	18 59 19	13 29⅓	17 36⅓	205 54½	77		5	
☉ ——	19.		Noon.	70 38¼	17 40⅓		78	79½		
		15 25 59¼	4 58 22½	14 4	17 47	205 25¼	78¼	79½	5	
		15 33 48¼	5 6 20	12 11⅕	17 47	205 28	78¼	79½	5	
☽ ——	20.		Noon.	70 38¼	18 3⅓		80	81¼		Cloudy.
		5 43 42½		16 32⅓	18 19	203 58	79	78½	5	
♂ ——	21.		Noon.	70 42⅕	18 22⅘		79¼	81		
		15 10 8	4 36 54	19 17⅛	18 28⅓	203 41	80½	80¼	5	
		15 30 29		14 45	18 29	203 38	80½	80¼	3	Very cloudy.
		15 43 54		11 25⅕	18 29	203 37	80½	80½	5	Ditto.
		15 55 45	5 22 31	8 34 9/10	18 29⅓	203 41	80½	80½	5	
		5 48 43	19 13 26	17 5	18 36½	203 8½	77	74¼	5	
☿ ——	22.		Noon.	70 47¼	18 41⅒		77½	77¼		
		14 40 22½	4 2 10	17 29½	18 45⅕	201 23⅞	77	76½	3	Very cloudy.
		6 1 46	19 20 11	18 45 1/12	19 4⅓	201 31	71	69¼	3	Ditto.
♃ ——	23.		Noon.	70 44	19 8⅖		74½	73		
		5 53 56	19 6 35	15 39⅓	19 22⅕	199 59	74¼	72½	3	Very cloudy.
♀ ——	24.		Noon.	70 47⅕	19 28⅓		75	74		
		14 9 21	3 19 1	37 32⅓	19 32¼	199 12¼	75	74¼	6	
		14 31 12½	3 40 46	32 34⅕	19 33¼	199 11¼	75	75	3	Cloudy.
		6 20 49½	19 25 44	20 14½	19 45¼	198 2½	75½	72½	5	
♄ ——	25.		Noon.	70 47¼	19 51⅓		74½	73¼		
		13 37 39	2 39 38	46 24⅙	19 55½	197 18½	75	73½	6	

1773	Time by Watch K H ″	Apparent Time H ′	Altitude of the ☉'s L. L.	Latitude South	Longitude East by K	Thermom. A	Thermom. B		Remarks
♄ Sept 25	13 53 41	2 55 39	2 51½	19 55	197 17	75	73	5	
	7 38 57	20 35 38	36 21¼	20 20½	195 56	73	71	5	
☉ — 26		Noon	70 37¾	20 25		73	73		
	16 3 23½	4 56 44	15 7⅓	20 30	195 5	72½	71	5	
	6 9 22	18 59 38	14 21¼	20 35	194 15½	71½	71½	5	
☽ — 27		Noon	70 46½	20 40		71½	71		
	15 16 8½	4 2 46	27 44	20 44	193 21½	72	70	5	Very cloudy
	6 8 58½	18 48 45	11 56¼	20 57	191 37½	72	71	4	
	6 34 30½		17 45	20 58	191 33			5	
♂ — 28		Noon	70 46	21 3		72¾	72½		
	9 33 39	22 6 44	56 18	21 27	189 53	72½	73	5	
☿ — 29		Noon	70 43	21 30½		72¼	72½		
	13 44 3	2 15 37	51 45	21 28	189 30½			5	
	6 25 53		12 48	21 14½	187 56	73	70	4	
♃ — 30		Noon	71 26	21 11¼		71	70		
	14 42 40	3 4 48	41 18¼	21 13	187 6	71	70	4	Very hazy
♀ Oct 1	7 35 59	19 54 20	27 31	21 20	186 7	69	67	5	Cloudy
		Noon	71 38¼	21 21		70	70		
	16 11 21	4 26 40	22 43	21 24	185 21	70	69	5	
♄ — 2		Noon	72 3⅓	21 20½		70½	71½		
	14 29 55		46 19¼	21 20½	184 55¼	71	74	5	In English Road
	8 15 17	20 28 43	35 44	21 16¼	184 49	71	71¼	5	Eaoowe
☽ — 4		Noon	73 6¼	21 4½		71	71		
	13 59 49	2 12 22	53 37	21 4½	184 32	72½	72	3	Cloudy
♂ — 5		Noon	73 52¾	21 4	Dollond's Q.	71½	74½		
			73 52⅞	21 4	Ramsden's				In Van Diemen's
	10 29 9½	22 41 56	65 3	21 4½	184 32½	72½	74½	6	Road at Ton-
☿ — 6		Noon	73 52¾	21 4	Dollond's Q.	72½	75¼		gataboo
			73 52⅞	21 4	Ramsden's				
	15 14 44½	3 27 27	37 9	21 4½	184 30	72½	72½	8	Very cloudy
♃ — 7	10 31 44	22 44 38	65 48	21 4¼	184 31	72½	72½	6	
		Noon	74 14	21 4¼		72½	73		
	15 36 24	3 49 7	32 18	21 4					
	8 59 0	21 10 12	45 46¼	22 1	184 28	72	72½	5	The Road [illegible] miles
	9 22 18½	21 33 35	50 57	22 1	184 4½	73	73½	5	
♀ — 8		Noon	73 38¼	22 4	184 5½	73	79¾	6	
	16 57 42	5 9 29	73 47	22 6¼		75	76½		
	8 46 6½		43 25¼	22 23	184 12¼	76¼	75	5	
♄ — 9		Noon	73 37¼	22 28	184 47	72¼	70½	4	
	7 43 36	19 53 53	28 36¼	22 36		73¼	73¼		
☉ — 10		Noon	73 43¼	22 45	183 47¼	74	70	6	
	16 1 10	4 9 11	27 55	22 56½		70¼	69¼		
	8 42 31		40 38¼	23 40	183 12¼	71	70	4	
	9 31 36	21 36 10	51 30	23 42½		69	69	4	
	9 31 36		51 30		182 19½	69	69	6	
☽ — 11	12 25 56		71 32	23 51	Ship's Course S by W 4 miles an h			6	
								4	

1773.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude South. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☽ Oct. 11.	15 51 38½	3 54 54	31 12⅞	24 6½	182 0	70¼	69¾	4	
	7 42 10		26 14⅓	25 17½	181 26¼	69¼	69½	5	
	8 2 43	20 3 31	30 50⅙	25 18½	181 23½	69¼	69½	6	
♂ —— 12.		Noon.	71 38	25 26½		72	70¼		
	16 34 31	4 34 21	22 19⅓	25 54	181 7	71	70¼	5	
	8 41 53	20 39 30	38 41⅓	26 55	180 32¼	69	68½	5	
☿ —— 13.		Noon.	70 24	27 13⅔		70¼	70		
	7 2 41	18 57 38½	16 20⅔	28 27	179 51½	68¼	66¼	8	
	7 7 54	19 2 54½	17 29⅓	28 27	179 53¼	68¼	66¼	5	
♃ —— 14.	6 35 45½	18 29 20	10 24⅞	29 47	179 30¼	68	65	5	
♀ —— 15.		Noon.	68 5¼	30 16		71½	68¾		
	15 26 28½	3 20 7	38 24½	30 32	179 30⅞	71	70	5	
	6 39 25½	18 32 56	11 27¼	31 16¾	179 28¼	67¼	65	6	
♄ —— 16.		Noon.	67 2¼	31 41⅓		69¼	68		
	17 15 15	5 8 42	15 29⅓	32 0 1/10	179 27¼	68½	67	5	
	9 4 10	20 57 40	41 46 1/10	32 37	179 27⅙	66½	66¼	5	
☉ —— 17.		Noon.	66 24¼	32 41⅘		69¼	69		
	17 35 52½	5 29 18½	11 21⅓	32 51½	179 26	68	66		
	6 42 41	18 37 16	12 51¼	33 24	179 42¼	66¼	64	6	
☽ —— 18.		Noon.	65 41¼	33 46⅔		69½	66		
	8 5 10		29 53⅓	35 40		66¼	64½	2	Cloudy.
♂ —— 19.		Noon.	63 52 :	35 58		68½	66¾		Ditto.
	7 3 34		17 32⅞	37 27	179 38¼	64½	61½	5	
☿ —— 20.		Noon.	62 23½	37 47¼		64	60¼		
	14 49 27	2 42 51½	44 9½	37 58¾	179 23	65	61½	6	
	6 48 51½	18 39 54½	14 14¾	38 54⅚	178 48¼	62	59½	6	
♃ —— 21.		Noon.	61 27	39 6		63½	62		
	14 48 52	2 37 5½	44 5⅛	39 10¼	178 4½	64¼	63⅓	6	Portland S. by W. ½ N. 2 or 3 leagues.
	8 52 52½	20 35 30½	36 18⅛	40 5¾	176 42	61½	58	6	Black-Head S. W. 2 or 3 leagues.
♀ —— 22.		Noon.	60 40½	40 14		62½	59½		
	15 32 15	3 14 55½	37 58⅙	40 25⅓	176 43	63¼	60¼	5	Cape Turnagain S. W. b. W. about 4 le.
♄ —— 23		Noon.	60 47¼	40 28½		58	53¾		Cape Turnagain W. ¾ S. about 2 leag.
	15 50 33½	3 33 13½	34 54½	40 28⅔	176 43	61	58	6	
	8 26 39	20 7 57	31 23⅓	41 27⅔	176 24	60	57¼	5	
☉ —— 24.	17 33 46	5 13 38½	16 19⅔	41 57	176 1½	62½	62	6	Very hazy, and great sea.
☽ —— 25.		Noon.	59 34½	42 23		62	59¾		Ditto.
	7 45 47	19 23 17	23 28	42 50½	175 27	59¼	54¼	5	
	11 46 5		58 42½		☉ N. Ship's course N. W. by N. 6 miles an hour.				
♂ —— 26.		Noon.	59 51⅓	42 27					
	13 46 2½		58 11⅛		☉ N. 26° W.			4	

1773	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉ L L ° ′	Latitude S ° ′	Longitude East by K ° ′	[illegible] A	[illegible] B	[illegible]	Remarks
♂ Oct. 26	17 53 20	5 29 22	13 53	42 0⅙	175 4	57	53	4	Cape Palliser N [illegible] W about 6 leagues dist.
☿ —— 27		Noon	61 3	41 35		57	58		Cape Palliser W by S about [illegible] leagues
	17 14 41	4 50 43	21 15½	41 47⅙	175 4⅓	60¾	57	1	Cape Palliser N W about 4 leagues hazy [illegible]
	8 9 58	19 47 39	28 27	42 3⅙	175 31	57	56	5	
♃ —— 28		Noon	60 42	42 16		59½	58		Hazy, and a [illegible]
	16 51 34	4 28 37	25 31	42 20½	175 22	61	56	5	
	10 23 53	22 2 49	51 45	41 49⅙	175 51	57	52	5	Cape Palliser W N about 10 leagues
♀ —— 29		Noon	61 33	41 45		57	52		Cape Palliser W [illegible] about 8 leagues off
	17 28 56	5 6 25	18 46	41 42	175 30	58	53	6	Cape Palliser W about 5 leagues off
♄ —— 30		Noon	61 25	42 13¼		59	58		Very hazy and [illegible]
☉ —— 31		Noon	61 40	42 19		60	57		Ditto
☽ Nov. 1	9 18 47	20 51 41	41 14		174 28	55	53	6	Cape Palliser [illegible] N about 6 leagues dist.

♂ —— 2 We anchored in Q. Charlotte's Sound, after beating off the Mouth of Cook's Straits, for a fortnight, in one of the heaviest gales of wind almost ever known. I got up my Clock and Instruments as soon as possible, and compared the Watch K with the Clock every day, from the 6th to the 22d, (See p. 65.) and found that the Watch was then gaining 9″,091 a day on mean time, and that it was too slow for mean time, at Queen Charlotte's Sound, by 11 h. 14′ 4″,7 on the 6th at noon. Hence, allowing the rate at which it went at Point Venus, it will make the difference of Longitude, between that place and the Sound, 36° 26′ 29″; that is, it makes the Sound 173° 58′ 41″ East of Greenwich. Allowing its Greenwich rate all the way from Drake's Island, it will place the Sound 171° 36′ 25″ to the East of Drake's Island, or 167° 20′ 17″ East of Greenwich. Lastly, it was 11 h. [illegible] 38″ 17″,97 too slow for mean time at this place, June 3. at noon, and gained then at the rate of 9″,05 a day; consequently it should have been 11 h. 14′ 16″,17 too slow on November 6. at noon; but as I found it only 11 h. 14′ 4″,7, it is manifest that the Watch has erred from its true rate 41″,5 in the interval between these two times.

In computing the following Longitudes of the ship, I assumed the Watch's rate of going as above mentioned; that it was 11 h. 11′ 42″,3 too slow for mean time at Queen Charlotte's Sound, on ☽ the 22d, at noon, and that the true Longitude of the Observatory was 174° 17′ 4″ East of Greenwich, which is what my Observations, made there this time, gave it.

♃ —— 25	7 59 12	19 27 8	29 36		175 22¾	64	61	5	Cape Palliser W N W 3 or 4 leagues off
♀ —— 26		Noon	68 56	41 52		64½	63		Very hazy.
	7 50 21	19 19 16	28 20	43 0⅓	175 45½	64¼	63	5	Ditto

1773.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♄ Nov. 27.		Noon.	67 32½	43 26⅓		62	62		
	17 11 38½	4 41 46	28 14	43 50½	176 5½	63½	61	5	
	7 48 48	19 20 10	28 40⅙	44 18½	176 29	62	54	5	
☽ —— 29.		Noon.	66 44	44 36¼		64½	55		
	17 12 31	4 45 50	27 47½	44 50	177 8¾	64	54½	5	
	7 51 24½	19 28 3	30 19⅙	45 34½	178 3¼	56¼	48	5	
♂ —— 30.		Noon.	65 40¾	45 49½		59	49		
	17 34 9½	5 12 44	23 19½	46 3½	178 35¼	60	49	5	Very cloudy.
	7 54 25½	19 35 37	31 43½	46 54	179 10½	56	48	5	Very hazy.
☿ Dec. 1.		Noon.	64 35::	47 4½		59	49½		Very cloudy.
♃ —— 2.		Noon.	63 26¼	48 21⅞		57	46½		Ditto.
♀ —— 3.		Noon.	63 0¼	48 56½		56½	47		Hazy.
♄ —— 4.	5 44 32	17 26 1	11 39⅔	50 4½	179 57¼	54	45	5	
☉ —— 5.		Noon.	61 59	50 14¾		62½	46½		
	17 48 50½	5 28 49	21 47⅔	50 18½	179 37½	63½	46½	6	
	8 7 49	19 47 0	33 51½	50 38½	179 33⅙	57½	47½	6	
☽ —— 6.		Noon.	61 26::	50 54½		65	49		Very cloudy.
	10 38 26	22 19 18	54 0½	52 53	180 5½			6	
♂ —— 7		Noon.	59 20¼	53 7½		63½	49		
	16 15 15½	3 57 40	35 53⅔	53 35½	180 31	60	48½	6	
	7 24 47	19 9 16	28 7½	55 11¼	181 7½	49	50	6	Cloudy.
	9 23 50	21 7 51	44 22½	55 18⅝	181 1½	54	45	6	Flying clouds.
☿ —— 8.		Noon.	56 54¾	55 39½		57½	43¼		
	16 29 53	4 16 22	32 56$\frac{1}{11}$	56 4½	181 41	61	43	6	
	9 42 23	21 29 21	45 40½	57 44⅙	181 54½	55	45	6	
	10 14 5		48 52⅓	58 6¼	Ship's course S. S.			6	Hazy.
♃ —— 9.	12 54 39½		53 43$\frac{1}{11}$		E. 6¾ miles an hour.			6	
	16 23 25½		33 12⅙	58 22¼	182 21¾	62½	43½	3	
♀ —— 10.	9 52 46	21 57 25	46 43½	60 31	186 38¼	51½	39½	6	Cloudy.
♄ —— 11.		Noon.	52 6	60 44¾		57½	39½		
	16 11 26	4 18 26	31 59½	61 11⅓	187 23¾	56½	39½	6	
☉ —— 12.		Noon.	50 9¼	62 46½		54	32¼		
	16 25 55	4 44 57	28 47	63 4	190 26¼	59	35	6	Very cloudy.
	18 52 25½	7 13 24½	12 34⅔	63 10⅔	190 56¼				
☽ —— 13.	7 5 36½	19 44 52	31 51$\frac{1}{11}$	64 38⅙	195 45¼	42	31½	6	
♂ —— 14.		Noon.	48 8¼	64 55⅙		51½	34¼		
	15 50 45	4 36 54½	29 30	65 12½	197 32	51	35	6	
♃ —— 16.		Noon.	48 54::	64 15½		52	33		A great sea.
♀ —— 17.	11 23 57½		48 10$\frac{1}{11}$	64 35	Lying too, Ship's			6	
	12 58 41½		43 24½		Head N. Eastward.			6	
	15 35 11½		28 23$\frac{1}{11}$	64 31	204 59¼	56	33	6	
☉ —— 19.		Noon.	48 27½	64 47⅘		57½	34		
	14 49 36		30 38⅙	64 49⅘	211 24			6	
☽ —— 20.		Noon.	47 18	65 58		55	33		
♂ —— 21		Noon.	46 29::	66 48		55	34		Very foggy.
☿ —— 22.		Noon.	45 50	67 26⅓		50	33		Very good.

1773	Time by Watch	Apparent Time	Altitude of the ☉'s L L	Latitude S	Longitude E by K	Thermom A	Thermom B	No of Obs	Remarks
	H	H							
☿ Dec 22	5 51 42	20 11 26	33 51¾	67 13	221 34	41	31¼	6	Cloudy
♃ — 23		Noon	46 4	67 12¼		53	35		
♀ — 24	14 46 55½	5 8 42	26 15¼	67 5	223 4	53	33	6	
	16 9 43	6 33 2	18 11 9/10	67 3	223 26½	55	33	10	
♄ — 25		Noon	46 52½	66 21½		50	34		
☉ — 26		Noon	46 57½	66 14½		56	37		
	14 52 4¼	5 24 29½	24 4⅘	66 6	226 1¼	58	35	6	
	5 17 54¼	19 52 11	32 23¾	65 51⅓	226 35⅞	47	36	5	
☽ — 27		Noon	47 16½	65 53½		53	35		
	14 12 54¼	4 46 57	28 28¼	65 46¼	226 35⅓	52¼	34	6	
☿ — 29	14 41 10¼	5 9 29	26 6¼	62 10	225 29¼		34½	6	
♃ — 30.	4 55 27¼	19 17 59	29 24⅓	59 56	224 47⅓	47	33	6	
♀ — 31		Noon	53 15¾	59 40		54	35½		
	15 16 36	5 39 23	22 11¼	59 38	224 58¼	63	35	6	
	5 54 19¼	21 14 40	43 21 1/11	59 17⅛	223 54⅞	50½	34¾	6	
1774 ♄ Jan 1		Noon	53 39⅓	59 11¼					W W
			53 39½	59 11⅓		61¼	36½		Mr Gilpin
	15 54 33	6 13 10	17 43⅝	58 48	223 32¾	59¼	37¼	6	
	3 22 16	17 38 47	16 31⅓	58 4	223 5¼	51¼	34½	6	
☉ — 2		Noon	54 47¾	57 58 1/10		61	38¾		
	8 4 37½	22 10 23	50 20 1/11	56 52¼				6	
☽ — 3		Noon	55 54	56 46½		55	36		
	14 13 55	4 17 36	32 45⅙	56 27	220 6⅓	61¼	39	6	
♂ — 4		Noon	57 39	54 55¼		59¼	46¼		
	6 9 56	20 21 42	38 38⅓	53 57	222 5	51¼	47	5	
☿ — 5		Noon	58 44	53 43⅓		55¼	46¾		
	6 11 9	20 29 32	40 3⅝	52 23	224 11⅛	50¾	46	6	
♃ — 6		Noon	60 21	51 59¾		55⅓	47		
	14 34 28½	4 55 18	27 12 1/11	51 42¾	224 50¼	55	50	6	
	5 27 1½	19 53 10½	34 45¼	50 47	226 16	52¼	47¼	6	
	6 17 7	20 43 27	42 30½	50 45½	226 18¼			6	
♀ — 7		Noon	61 37	50 36½		61⅓	50		
	14 28 15	4 57 48	26 39⅞	50 19¼	226 55¼	66⅓	50¼	6	
	6 13 55	20 48 47	43 40⅓	49 19½	228 36	56	47¼	6	
	6 29 19	21 4 14	46 2¼	49 19	228 36¼			6	
	6 59 11	21 34 16	50 27⅛	49 17	228 39¼			6	
♄ — 8.		Noon	62 58	49 7⅓					By W W
			62 57½	49 8 1/10		61¾	49¼		By Mr Gilpin
	14 15 38	4 54 47	26 58⅓	48 59½	229 43	65¾	50	8	Cloudy
	5 5 7½	19 52 56	34 49½	48 25⅝	231 58¼	54	49	6	
☉ — 9		Noon	63 40½	48 17		61	61⅓		
	4 23 22	19 22 4	29 34½	48 8¼	234 50⅛	57	49¼	4	Cloudy
☽ — 10		Noon	63 41	48 7⅓		64	52¼		
	4 17 6½	19 23 31	29 42½	47 50¼	236 54	54¼	48¾	6	
♂ — 11		Noon	63 48¼	47 51¼		62	50		

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obſ.	Remarks.
♂ Jan. 11.	14 41 49	5 53 23	17 1⅙	48 19¼	238 16½	65	50	6	
	4 8 17½	19 24 51	29 49 1/12	49 13¾	239 34½	57	53	6	
☿ —— 12.		Noon.	61 56¼	49 34		63½	56		
	13 58 50	5 18 33	22 50½	50 0¼	240 24½	65	55	6	
♃ —— 13.		Noon.	59 19:	52 1½		63¼	53½		Foggy.
♀ —— 14.		Noon.	57 15:	53 55½		63¼	51¼		Ditto.
	13 24 11½	4 39 49½	28 36¼	54 27	239 39½	64½	54½	6	Ditto.
♄ —— 15.	4 49 6	20 6 23½	34 38¼	55 59⅔	240 17	55	48	6	A great ſea.
☉ —— 16.		Noon.	54 30:	56 18½		61¼	47¾		Ditto, and hazy.
	14 18 45	5 37 39	20 16½	56 50½	240 44	63¼	49	6	
	4 17 58½		30 22¼	58 7	241 16⅙	52	43½	6	
☽ —— 17.		Noon.	52 3:	58 34		60¼	41½		Foggy.
	12 52 8		30 53 1/12	58 58¼	241 57¼	58⅔	41	6	
♂ —— 18.	13 3 46	4 32 1	28 18⅔	61 6	243 18⅓	56½	41½	6	
☿ —— 19.	2 18 54½	17 48 49	16 26⅗	62 28	243 53¼	51	47½	6	
♃ —— 20.		Noon.	47 25¼	62 34½		60	40		
	12 53 59½	4 21 43	28 51¼	62 37⅗	243 23¾	61½	38	6	
♀ —— 21.	8 46 51		47 16¼	62 26	☉ N. W. ¼ N. at 2d Obſerv. Ship's courſe E. ½ N. 4¼ miles an hour.			4	
	9 41 19		45 42⅓					6	
	12 44 20	4 13 7½	29 34½	62 20⅛	244 1	59	38	10	
♄ —— 22.	4 0 14	19 49 3	29 38⅔	62 18½	248 57	47	37	6	
☉ —— 23		Noon.	46 57½:	62 22¼		55¼	38½		Cloudy.
☽ —— 24.	4 47 14	20 41 44	33 25	65 15⅙	250 34½	54	41		
♂ —— 25.		Noon.	43 26¼	65 24⅙		60½	42¼		Hazy.
	14 35 14	6 28 46	14 12¼	65 45	250 22½	62	39¼	6	
	3 3 2	18 55 54	22 37½	66 25	250 15¾	50		5	
☿ —— 26.		Noon.	42 1:	66 35½		58¼	40		
♃ —— 27.		Noon.	40 29½	67 51½		60	37½		
♀ —— 28.	3 13 8	19 12 10	22 58 5/11	69 41	252 3½	46½	34½		
	3 52 58	19 52 6	26 17⅙	69 42⅔	252 5			4	
♄ —— 29.		Noon.	37 51¼	69 58½		53	36½		
	12 42 32	4 44 23½	13 3½	70 18	252 47½	63		5	
☽ —— 31.		Noon.	38 4::	69 13		58¼	34		
	3 32 17	19 40 27	25 0 1/12	68 13	254 34⅞	58¼	35	6	
	3 44 3	19 52 13	26 2⅙	68 12¼	254 34⅙			3	
	7 41 59		38 57					3	Latit. by two Alt. 68° 0′¼ S.
♂ Feb. 1.			38 59::	68 1¼		58½	35		
	8 19 58		38 47½					5	
	5 24 18		34 27⅙	☉ N. Ship's courſe N. E. by N. 4 miles an hour.				3	
	7 31 17		39 30⅐					4	
☿ —— 2.		Noon.	39 35½	67 7½		54	37		
♃ —— 3.		Noon.	40 1	66 25		57	35		

1774	Time by Watch K H ′ ″	Apparent Time H ″	Altitude of the ☉ s L L	Latitude S	Longitude East by 1	Thermom A	Thermom B	No of Obs	Remarks
♃ Feb 3	12 34 2	4 48 25	21 8	66 18	258 47⅛				
	3 11 51	19 39 35½	24 50½	65 46⅝	259 40			5	
♀ — 4		Noon	40 26¼	65 41⅓		49	34	5	
	11 42 3	4 10 2	25 47⅓	65 36		58¼	34½		
	2 55 13	19 22 29	23 16⅔	64 28½	259 44⅓	61	34⅓	6	
♄ — 5	11 48 41	4 15 50½	25 26⅓	63 58⅓	259 36	49	37½	6	
	5 28 34		37 10⅓		259 35⅙			6	
☉ — 6		Noon	41 38	63 53⅞		60	39¾	5	
	3 21 48	19 55 23½	25 57⅓	61 31¼	161 17¼	46	37		
☽ — 7		Noon	44 8	61 5¼				5	
	12 35 24	5 10 30½	19 13 9/10	60 30¼		55	40		
☿ — 9	3 40 32	20 17 22½			261 41¾	60½	38	5	Cloudy & bad horizon
♃ — 10			31 23⅓	54 2¾	262 15	54¼	44	5	
		Noon	50 39¼	53 36⅓		60	47		
	12 18 45½	4 55 14	20 59⅓	53 9	262 12	64	47		
♀ — 11	8 8 39		50 53½	51 33½	☉N 76 W at 2d			5	Strong wind, and
	10 20 50		37 20⅓		obs Ship's course			4	a high sea
	13 8 50	5 52 52½			N ½E 6½m an h			4	
			11 43	51 12⅝	264 17½	62¾	49¼	6	A high sea
♄ — 12	3 10 47	19 51 14	28 35¼	50 23⅔	263 58⅞	53½	47⅓	4	Cloudy
		Noon	53 21¼	50 15		59½	47¾		
	13 44 16	6 27 32	6 6¼	50 11	263 57	64⅓	49	4	
☉ — 13		Noon	53 4	50 12⅓		60¼	52		
	11 49 35½	4 27 49½	24 44¼	50 26¾	262 43¼	64⅓	51⅓	6	
☽ — 14	12 14 28	4 55 9	20 14	49 28	263 21¾	68	51⅓	6	
	3 6 42	19 45 25½	26 42⅓	48 55	262 53⅓	59⅓	51	6	
♂ — 15		Noon	53 41	48 55		63¾	54		Thick fog
☿ — 16		Noon	54 30½	47 45		59⅓	56		Foggy
	3 2 4½	19 50 3	27 25⅓	46 32½	265 15	60	53	6	Very hazy
	6 25 10		54 10¼		☉N Ship's course			5	Ditto
♃ — 17		Noon	55 37½	46 17⅛	N 4 m an ho 155				Ditto
	7 38 55		55 10⅓	46 15¼	By two Altitudes			5	Ditto
♀ — 18	3 11 37	20 0 19	29 21⅔	44 37⅓	265 26¼	55¼	52	6	A high sea
		Noon	57 23¼	44 10⅓		56¼	50⅓		Ditto
	10 17 0		38 53¼	43 52¼	265 6¼			6	Ditto
♄ — 19	3 19 57	20 3 7	30 6¼	42 24¼	264 5	58	55	4	Cloudy
		Noon	59 6⅓	42 5½		60⅓	58¼		
	12 1 8	4 44 47	41 20¼	41 43⅓	264 12¼	63⅓	59	6	
☉ — 20	3 20 24	20 6 20½	30 46¼	40 21	264 47¼	64	61	6	
		Noon	60 51⅓	39 59¼		66¼	66		
	10 35 31	3 22 13½	36 47⅓	39 43⅙	264 59	69	66	10	
☽ — 21	2 1 2	18 49 27	16 9⅓	38 21	265 25			6	
		Noon	62 35¼	37 53⅘		68½	67½		
	11 42 20	4 31 31	23 46¼	37 31¼	265 21¼			10	
♂ — 22	2 43 43		23 53¼	36 24	264 52	70¼	68¼	5	
		Noon	63 57	36 10⅓		72¼	69		

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♂ Feb. 22.	3 7 23	19 45 31¼	26 54½	36 34¼	262 51½			5	
☿ —— 23.		Noon.	63 4	36 41¼		71½	69		
	12 10 47	4 46 34	20 24⅙	36 48	262 1¼		69	5	
	2 32 41		18 26¼	37 16½	261 13⅓	69	71	6	
♃ —— 24.		Noon.	61 56	37 27½		73⅓	71		
	4 6 24		34 25¼	37 49⅓	258 42⅞	72	70	6	
♀ —— 25.		Noon.	61 7¼:	37 53⅔		71	69		Cloudy.
	12 37 30		17 45⅓	37 45	258 18½	71½	68½	6	
	3 30 27¼	19 48 15¼	26 43¾	36 53½	257 46¼	69	65½	6	
♄ —— 26.		Noon.	61 59	36 39⅔		67¾	65		
	13 27 22	5 43 19	8 24 1/10	36 11	257 18¼	70½	64¼	5	
	4 42 55	20 57 26	40 25¼	35 4	256 56½		67	5	
☉ —— 27.		Noon.	63 22¼	34 54		68¼	68⅓		
	12 31 9	4 45 33	19 53 1/11	34 33⅔	256 54⅓		68	6	
	3 40 7	19 53 54	27 59⅔	33 24¾	256 44¾	70¼	69⅔	6	Very cloudy.
☽ —— 28.		Noon.	64 44¼	33 9		72	71½		
	3 13 11	19 26 19¼	21 58½	32 27	256 20			5	
♂ March 1.		Noon.	65 14½	32 17		74¼	71¼		
	12 55 24	5 8 2	14 52⅘	32 6	256 26½	76¼	73⅔	5	
	3 37 46	19 51 11	27 20½	31 21⅔	256 38			5	
☿ —— 2.		Noon.	65 54½	31 13⅔		74	74		
	12 38 5	4 52 9	18 5⅓	31 5¾	256 47¼		74	6	
	3 39 40¼	19 55 13	28 5⅛	30 39½	257 9	73½	71	5	
♃ —— 3.		Noon.	66 8½	30 36¼		75	74		
	12 47 53		15 2	30 26⅓	257 41½	78⅔	75	3	
	3 23 53	19 42 49	25 25	30 6	257 59⅙	75¼	74	5	
♀ —— 4.		Noon.	66 24	29 58⅔		75¾	74½		
	12 18 35	4 38 17	20 45½	29 52⅓	258 10	78¾	76	5	
	2 44 9¼	19 4 28	16 55⅓	29 46	258 18½			5	
♄ —— 5.		Noon.	66 15	29 44⅔		77⅓	75		
	12 34 46	4 55 4	16 57⅙	29 41½	258 17¾			6	
	3 35 43¼	19 55 2	27 39⅚	29 30⅓	258 2¼			6	Cloudy.
☉ —— 6.		Noon.	66 14½	29 21⅓		76	74		
	12 57 3¼	5 14 52	12 30 1/12	29 11½	257 39	76¼	73½	6	
	2 46 46	19 2 0	16 4⅓	28 36	256 59⅞			6	Cloudy.
☽ —— 7.		Noon.	66 53	28 19⅘		75¼	74½		
	13 3 12¼	5 16 24	11 59¼	28 2	256 28½		74	5	
	2 42 25	18 51 26	13 37½	27 16¼	255 25	76	73¼	6	
♂ —— 8.		Noon.	67 45¼	27 3 9/10		76	75¼		
	3 39 56¼		24 20	27 6	253 19½		74½	6	
☿ —— 9.		Noon.	67 19	27 6¼		76¼	77		
	11 55 59	3 54 25	29 43½	27 7	252 44	76½	76½	6	
♃ —— 10.		Noon.	66 53	27 9⅓		76	76¼		
	11 37 17	3 27 46¼	35 17½	27 9⅛	250 43⅓	76	76	6	
	5 8 6	20 55 34	40 4 9/10	27 10⅔	249 56¾	76	75	6	
♀ —— 11.		Noon.	66 27¼	27 10⅞		76½	75		

1774	Time by Watch K (H ′ ″)	Apparent Time (H ′ ″)	Altitude of the ☉'s L L	Latitude South	Longitude East by K	The[r]mom. A	The[r]mom. B	[illegible]	[illegible]
7 March 11	5 20 50	5 6 47¼	13 24¼	27 11½	249 33¼	76	75¼	6	
♄ — 12		Noon	65 57½	27 17½		75½	75¼		
	3 53 16	19 37 20	22 50¼	27 11	249 2	74½	75¼	2	Off the South Point of [illegible] Island
☉ — 13		Noon	65 45	27 6½		76	74		Off the North Point of ditto
☽ — 14		Noon	65 20	27 7$\frac{9}{10}$		74½	74		At Anchor off the N W side of ditto
	10 43 8	2 27 20	46 53$\frac{6}{10}$	27 8	249 3¼	75½	74	6	
☿ — 16		Noon	64 33½	27 7		74	75		Off the N W side of ditto
	11 38 51	3 23 3	35 4½	27 7	248 57¼			6	
	3 33 8	19 15 41½	17 22¼	26 66	248 32½	75	75	6	
♃ — 17		Noon	64 28¼	26 48		77½	77		
	12 37 27	4 18 17	23 5	26 38⅛	248 5¼	77	76¼	5	Cloudy
	3 11 41	18 50 34½	11 43¼	26 16	247 34¼	76¼	75¼	5	
♀ — 18		Noon	64 48¼	26 4⅘		78	76		
	11 41 57½	3 20 42	35 31½	26 0	247 31			5	
	5 3 15	20 40 28	35 54⅙	25 6½	247 7½			6	Very cloudy
♄ — 19		Noon	65 37½	24 51¼		77	77		
	11 23 32	3 0 6½	40 6⅞	24 41½	246 57	77½	76	[illegible]	Cloudy
	5 8 31	20 42 48	36 45½	23 21½	246 20¼	77¼	77	5	
☉ — 20		Noon	67 4¼	23 1½		77	77		
	5 20 24	20 51 18½	39 4½	21 23⅙	245 28	77	77½	[illegible]	
☽ — 21		Noon	68 38½	21 3⅓		78½	77		
	11 40 17	3 10 15	38 51¼	20 48⅓	245 13½			6	Cloudy
♂ — 22		Noon	69 57	19 21		78	76		
	11 37 20½	3 3 31	40 39$\frac{[illegible]}{10}$	19 13	244 14	76	75½	10	
	5 36 20	20 58 30	41 17⅙	18 18½	243 12⅙	77	76½	5	
☿ — 23		Noon	70 44¼	18 9½		79	77½		
	5 39 14	20 57 6	41 7⅛	17 16	242 5¼	77	75½	6	
♃ — 24		Noon	71 24	17 6⅓		78½	77		
	13 21 30	4 38 9½	18 57½	16 55	241 46¼	79	77	5	
	4 2 52	19 16 18	17 38½	16 18½	240 56½	78½	76	6	
♀ — 25		Noon	72 5⅓	16 1½		79	78		
	13 3 0½	4 14 45½	24 31$\frac{9}{10}$	15 51⅓	240 30½	79½	76½	6	
	3 51 10	18 59 12	13 36⅓	15 4½	239 33½	78	78	6	
♄ — 26		Noon	72 57½	14 45¼		78½	78½		
	13 55 31	5 1 9½	13 31⅞	14 28½	238 55¼	79½	78	5	
	4 25 48	19 27 28	20 27½	13 29½	237 55⅙	78½	78½	6	
☉ — 27		Noon	74 7	13 12½		79½	80		
	13 32 29	4 32 0	20 37½	12 57½	237 24¼	80	79	6	
	4 2 15		13 20¼	12 3½	236 18¼	79	78½	6	
☽ — 28		Noon	75 10½	11 45½		80½	80		
	13 30 37		22 36⅓	11 32½	235 30	80	80	6	
	4 13 3	19 2 40	14 37⅙	10 38½	234 49½	79¼	79¼	6	
♂ — 29		Noon	76 12½	10 20¼		81	81		
	14 8 54	4 55 50	15 0$\frac{[illegible]}{10}$	10 10½	234 8½	81	80¼	5	

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude South. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Ob.	Remarks.
♂ March 29.	4 40 5	19 21 52	19 20⅔	9 34	232 49⅕	80	79	6	
☿ —— 30.		Noon.	76 47	9 22⅓		80¼	80¼		
	13 48 32	4 27 21	21 58¼	9 21¼	232 4	80	80	6	
	5 0 41	19 33 45½	22 11⅞	9 18⅓	230 36½	80¼	80	6	
♃ —— 31.		Noon.	76 28⅓	9 17¼		80¼	80¼		
	14 8 15½	4 38 38	19 9¼	9 20¼	229 55¼	80¼	80¼	5	
	4 33 1	18 58 33¼	13 31⅔	9 27	228 41¼	80⅔	80¼	5	
♀ April 1.		Noon.	75 53	9 29⅔					
	13 23 45	3 47 4	31 33⅔	9 30	228 7	80⅔	81	5	
	4 37 24	18 55 56	12 48⅔	9 29	226 53⅕	80	79¼	5	
♄ —— 2		Noon.	75 30¼	9 28⅕		81	81¼		
	13 12 55	3 29 14	35 45¾	9 29	226 19⅕	81	81	4	
	4 42 17	18 53 54½	12 14⅓	9 32	225 7	80¼	80¼	5	
☉ —— 3.		Noon.	75 4	9 32⅓		81¼	81¼		
	13 12 1	3 21 41	37 27¼	9 32¼	224 37½	82	81¾	5	
	4 57 48½	19 2 33	14 15⅔	9 32⅓	223 22¼	81¼	81¼	5	
☽ —— 4.		Noon.	74 41	9 32¼		82	82¼		
	13 51 49	3 54 11	29 32 9/10	9 32⅓	222 45⅞	82	82¼	5	
	5 20 51		18 11⅚	9 33¼	221 42¼	82	81¼	5	
♂ —— 5.		Noon.	74 17	9 33⅓		83	83		
	4 59 0	18 52 22	11 40⅓	9 21	220 24¼	82	81¼	5	
☿ —— 6.		Noon.	74 8	9 19¼		83	83¼		
	14 47 33	4 38 12	18 47	9 30	219 45¼			1	
	5 1 56½	18 51 14	11 17⅓	9 36¼	219 23¼	80	77¼	5	
♀ —— 8.	14 25 14½	4 12 45	24 38	9 55¼	218 54¼	84	82¼	5	At anchor in Resolution Bay, in the island Ohitahoo, one of the Marquesas.
♄ —— 9		Noon.	72 20⅓	9 55¼	No Dip.		85		
	13 9 50	2 57 32	42 18¼	9 55¼	218 55⅕	84	84¼	5	
☉ —— 10.		Noon.	71 57⅓	9 55¼	No Dip.	83¼	84¼		
	12 49 24	2 37 12	46 49⅕	9 55¼	218 55	83¼	84⅕	5	
☽ —— 11.	12 50 11	2 37 54½	46 40 9/10	9 55¼	218 53	85	85¼	6	
♂ —— 12.	14 48 13½		18 51⅚			80¼	81¼	6	
	5 20 13	19 5 26½	14 4	10 34¼	218 11¼	81¼	79	5	
☿ —— 13.		Noon.	69 56¼	10 55¼		83¼	82¼		
	14 37 16	4 21 1½	21 51⅓	11 15⅓	217 48¼	83	82⅔	5	
	5 26 4	19 7 52	14 15⅚	11 54⅙	217 18⅕	81¼	81¼	5	
♃ —— 14.		Noon.	68 5¼	12 24⅕		83	82¼		
	14 34 0	4 13 28	23 9⅔	12 40	216 43	83	83	5	
	5 35 21	19 11 56	14 48⅔	13 20	215 58¼	81⅔	82⅓	5	
♀ —— 15.		Noon.	66 27	13 41⅓		83	83		
	14 2 41	3 36 34	31 9⅓	13 53⅓	215 17⅞	83	82¼	5	
	5 48 56	19 20 26	16 26⅔	14 17⅞	214 40¼	82¼	82	5	
♄ —— 16.		Noon.	65 29	14 17⅞		82¼	83¼		
	14 26 0½	3 54 56	26 42	14 18	214 2	82¼	83¼	6	
	6 7 1	19 33 38	19 19¼	14 28⅔	213 26¼	82	81¼	5	
☉ —— 17.		Noon.	64 59¼	14 26⅓	Taonkah from N. 62° W. to S. 66° W. Off shore abt. 2 m.				
	14 47 10½	4 11 28½	22 43⅓	14 29⅔	212 51			8	Off the opening into Taonkah.

1774	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉ L L	Latitude S	Longitude Fall by K	Therm A	Therm B	Dip	Remarks
☉ April 17	5 41 34	19 5 16	12 36	14 34	212 41	82	81	4	Off the east end of the then King George's Island
☽ —— 18		Noon	64 18¼	14 56					
	13 40 38	3 3 8	37 35⅛	15 5	212 23			10	
	5 36 45	18 57 9	10 23½	15 33	211 50	81¼	81	5	
♂ —— 19		Noon	63 5	15 38¼		82	82		Amongst Islands [illegible]
	14 51 14	4 9 13	22 35	15 41	211 13¾	82	82	6	Ditto
☿ —— 20	14 37 29	3 51 0	26 7	16 17	210 23¼	80	79	6	Cloudy
	5 59 36	19 9 38	12 34⅛	17 12¼	209 13	81	81	5	
♃ —— 21		Noon	60 30	17 32¼		8[illegible]	8[illegible]		

Next morning we anchored in Matavai Bay, Otaheite in the afternoon I got my Clock and Instruments up on the usual spot, Point Venus, and on the 23d, and every day afterwards, until May 9th, I compared the Watch K, and Clock together, see p 94, Hence I found that the Watch was 13 h 4 39 2 too slow for mean time at Point Venus on ♄ April 23 at noon Consequently, it gives the difference of longitude, this time, between Queen Charlotte's Sound and Point Venus 33 59 22″; that is, it makes the latter place 208 16 26 East of Greenwich Reckoning according to its Greenwich rate all the way from England, it places Point Venus 194° 24 21″ East of Drake's Island, or 190 8 13 East of Greenwich

It appears farther, from p 52, that the watch was 13 h 49 17,5 too slow for mean time at Point Venus, on August 31 1773 at noon and that it was then gaining at the rate of 8″,863 a day on mean time It ought therefore to have been too slow for mean time on ♄ April 23 at noon by 13 h 16 1 ,3, instead of 13 h 4 39″,2, and of course the watch has erred 10 33″ 1,= 2 38 16 , in longitude between these two days

Lastly, it was now gaining 11 ,833 a day on mean time, and was 13 h 1′ 9 56 too slow for mean time at Point Venus on May 9 at noon; and on these suppositions, and that the true longitude of Point Venus is 210 25 10″ East of Greenwich, the following longitudes of the ship are computed

☉ May 15	15 3 23	4 1 31	20 38	16 42⅘	208 52⅘	82	83	6	
☽ —— 16		Noon	54 0	16 44	Dip 2	83	84¼		
	14 9 41	3 7 37	31 27⅕	16 42⅘	208 53¾	84	84¼		In a boat and very
	14 16 46	3 14 39	30 5⅕	16 42	208 52	84	84	6	uncertain
♂ —— 17		Noon	53 45⅕	16 42¼	No Dip	82	83	5	
	15 19 56	4 17 40	17 1	16 42⅘	208 53⅕	85	83		Very certain
☿ —— 18		Noon	53 31	16 43⅕	No Dip	83	82¼	8	
♃ —— 19		Noon	53 19¼	16 42		81¼	80		
	15 6 38	4 3 55	19 43	16 42⅘	208 53	83	81		A little uncertain
♀ —— 20		Noon	53 6	16 42⅕		82	82	10	At Owharre Harbour,
	15 1 35	3 58 39	20 43⅕	16 42⅘	208 53	83	82	3	near the N part of it
	15 14 56	4 12 1	17 56⅛	16 42⅘	208 53⅘	83	82	5	
♄ —— 21	15 15 51	4 12 30	17 44¼	16 42⅘	208 51	84	83	8	
☽ —— 23		Noon	52 26	16 51		81	83		
♃ —— 26		Noon	51 54	16 45	No Dip	80	81		
♀ —— 27		Noon	51 43⅕	16 45⅕	No Dip	80	79		

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude South. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No of Obs.	Remarks.
♀ May 27.	13 43 46½	2 37 2¼	35 42 1/11	16 45¼	208 25¼	80½	80½	6	
♄ —— 28.		Noon.	51 33½	16 45½	No dip.	80	80½		
	13 5 56½	1 58 50	41 47¼	16 45½	208 24 9/10	79¾	80½	6	
☉ —— 29.	14 53 12	3 45 55½	22 32⅓	16 45½	208 26½		81¼	6	
☽ —— 30.	15 28 52	4 21 7½	15 13¾	16 45½	208 24½	81½	82½	5	
♂ —— 31.	14 38 56	3 30 52½	25 20½	16 45½	208 24½	81½	80½	6	
☿ June 1.	14 13 25	3 5 2	30 11½	16 45½	208 24½	82	81¼	5	
♃ —— 2.	14 29 53	3 21 12	27 3½	16 45½	208 25½	32	81	6	
♀ —— 3.	14 17 37	3 8 37	29 22	16 45½	208 25 11/12	83	81¼	5	
♄ —— 4.	14 19 27	3 8 54½	29 16½	16 42½	208 8½		81¼	6	Bolabola N. 3° ½ E. West End of Otaha N. 58° E.
	8 12 3	20 58 30½	30 34½	16 44½	207 27¼	81½	82¼	10	
☉ —— 5.		Noon.	50 29½	16 48		81½	82½		
	14 27 2	3 12 16	28 31	16 47½	207 23¼	82	83	5	
	7 17 54	19 59 52	19 4½	16 54½	206 25¼	82	81½	6	Very hazy.
☽ —— 6.		Noon.	50 21	16 49½		82½	82½		Hazy, & bad horizon.
♂ —— 7.	14 7 1½	2 41 32	33 37½	17 14½	204 40½	80½	80	2	Very cloudy.
	8 2 28½	20 34 56	25 30½	17 31½	204 14¼	80	79¾	6	
☿ —— 8.		Noon.	49 26½	17 32½		81	80¼		
	15 22 51½	3 54 28	19 45½	17 33	204 3½	82	82	4	
	6 52 23	19 21 57½	10 48¼	17 37½	203 37	83	79	6	
♃ —— 9.		Noon.	49 16	17 38½		81½	81		
	16 3 13	4 31 32	12 7	17 39½	203 19½	82	81	5	
	8 53 46	21 19 38½	33 17	17 47½	202 47½	79	76½	6	
♀ —— 10.		Noon.	49 1 ::	17 48		78½	77¼		Very cloudy.
	16 20 13	4 45 54	9 17½	17 49½	202 45¼	78⅓	77¼	6	Ditto.
	7 13 17	19 37 25	13 47⅛	17 51	202 26¼	78½	77	6	
♄ —— 11.		Noon.	48 48½	17 55¼		78	77¼		
	15 43 10	4 4 40	17 21⅛	18 0½	201 49½	77¼	77	6	
☉ —— 12.		Noon.	48 31	18 10½		75¼	75		
	9 31 50	21 40 37½	35 48	18 46	198 49	76⅓	78⅓	3	
☽ —— 13.		Noon.	47 51	18 45½		77¼	80		
	15 41 33	3 47 42	20 12⅛	18 46¼	198 11	78	77¼	3	Cloudy.
	15 46 1	3 51 48	19 24¼	18 46½	198 5¼	78	77¼	6	Ditto.
	15 57 57	4 4 1	17 0 1/12	18 46½	198 7½	78	77¼	6	Ditto.
	7 18 46	19 21 16½	10 1	18 40½	197 17½	76	75¼	6	
♂ —— 14.		Noon.	47 57½	18 35½		76	75¼		
	16 6 29	4 7 45	16 20½	18 34½	197 4¼	77¼	76¼	6	
	7 11 9	19 12 12	8 10½	18 32	197 3¼	76¼	75¼	6	
☿ —— 15.		Noon.	48 2¼	18 27½		77	75¼		
	16 8 51¼	4 9 4	16 8½	18 25½	196 54¼	76⅓	75⅓	5	
	8 3 33	20 1 46½	18 19½	18 20½	196 28½	76¼	74¼	6	
♃ 16.		Noon.	48 16¼	18 11½		75¼	75¾		
	15 56 7	3 54 58	19 9⅛	17 59½	196 40½	76	75¼	3	
	7 28 59	19 23 20	10 43¼	18 0½	195 36½	79	73¾	6	
♀ —— 17.		Noon.	48 22¼	18 2½		75	75		

1774	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉'s L L	Latitude S	Longitude East by K	Thermom. A	Thermom. B	No. of Obf.	Remarks
♀ June 17	15 14 50	3 7 14	28 7 1/3	18 5	195 9	75 1/4	74 1/4	6	
	15 25 51	3 18 0	26 8 1/6	18 5	195 5 1/2	75 1/4	74 3/4	6	
	7 33 58 1/2	19 21 44	10 13 1/3	18 16	194 3 3/4	74	73 1/4	6	
♄ —— 18	7 50 4	19 31 30	12 11 1/3	18 22 1/2	192 35 1/4	75	74	5	
☉ —— 19		Noon	47 57 1/2	18 24 9/10		75 1/2	77		
	16 23 46	4 2 57	17 15 1/2	18 27 3/5	192 4	76 1/2	76	7	
	9 54 18	21 28 29 1/2	33 43 7/8	18 45	190 52 7/8	76	76 1/4	6	
☽ —— 20		Noon	47 32	18 49 1/2		77	77		
	17 5 49	4 37 52	9 56 3/5	18 59	190 22 7/8	76 1/2	76 1/2	10	
	8 17 24	19 48 13	15 16 1/3	18 55	190 8 1/4	75 1/2	76	5	
	9 7 35	20 38 11	24 52 3/5	18 54 1/2	190 5 1/6	77	78 1/4	8	
	11 7 30	22 37 28	42 53 2/3	18 55 1/3	189 55 7/8	78	78	6	Off Savage Island
♂ —— 21	Ramsden's Q	Noon	47 24 7/12	18 56 3/5					
	Dollond's Q		47 24 1/12	18 57 1/2		78	78		
	14 47 31	2 17 17	35 43 1/4	19 1 1/2	189 54			6	
	16 5 4	3 34 48	22 24 1/12	19 2	189 54	79 1/2	78	6	
	8 14 28	19 41 49 1/2	13 46	19 20	189 22 3/4	77	76	6	
☿ —— 22		Noon	46 58 1/2	19 23 1/6		78	77 1/2		
	16 41 23	4 7 28	15 51 1/2	19 27 1/2	189 5 1/2	78 1/2	77 1/2	6	
	8 6 50	19 28 43	10 55 3/5	19 43	188 6 1/2	77 1/2	76 1/2	6	
♃ —— 23		Noon	46 32 1/2	19 49 1/2		78	77 1/2		
	16 37 41	3 57 14 1/2	17 33 1/12	19 57 1/2	187 33 1/2	77 1/2	77 1/2	6	
	8 12 43	19 27 13	10 17 2/3	20 24 1/2	186 22	78	76 1/4	6	
♀ —— 24		Noon	45 58	20 24 1/2		79	79		
	17 10 37 1/2	4 22 42 1/2	12 21 1/2	20 19 1/6	185 48 1/2	79 1/2	78 1/4	3	
	8 43 45	19 54 2	15 43 9/10	20 12	185 24 7/8	77	78	5	
	8 43 45		15 43 9/10	20 20 3/5	☉ N 46 E			5	
♀ —— 25	13 22 59		45 19 1/12		Ship's course S by W 3/4 W 4 miles an hour			5	
	14 27 3		40 2 1/2						
	14 27 3	1 37 14	40 2 1/2	20 22	☉ N 19 W			6	
☉ —— 26	8 31 55	19 41 0	13 3 1/2	20 26 3/5	185 24 1/2			6	
		Noon	46 2 7/12	20 23 1/6	185 13 1/2	77	76	6	
	16 22 36	3 30 36	22 29 1/3	20 15 1/2		75 1/2	75		
	8 28 13 1/2	19 36 0	12 10 2/3	20 15	184 58 1/2	75 1/2	78	6	
	8 45 54	19 53 46	15 31 1/6	20 15	184 59 1/2	75	74 1/2	9	
☽ —— 27	Ramsden's Q	Noon	46 12	20 15 1/2	185 0 1/2			5	
	Dollond's Q		46 13	20 14 1/2		76	74 1/2		
	14 59 55	2 7 34	36 16 1/2	20 18	184 59 1/2	76	74 1/2	6	At Annamocka, one of the Friendly Islands
♂ —— 28.	8 54 49 1/2	20 2 8	17 21 1/3	20 15	184 59			10	
		Noon	46 15 1/2	20 15	Ramsden's Quadrant				
			46 15 1/2	20 14 1/2	Dollond's Quadrant				
	17 28 14	4 35 26 1/2	9 53 7/8	20 15	184 59 1/2	76 1/2	74 1/2	6	

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♂ June 28.	Captain Cook and Mr. Cooper being both on ſhore at noon, and not coming off till late, I could not wind up the watch at the uſual time; and being engaged in the evening, when they did come on board, making computations, &c. unfortunately forgot it until it was down. I wound it up as ſoon as I recollected it, ſet it a going, and ſoon after made the following obſervations:								
	6 36 29	19 54 4¾	15 49 1/12	20 15		75	74¾	6	At Annamocka.
	Hence it appears, that the watch was 2 h. 10′ 38″¾ ſlower than before.								
	7 22 17	20 39 58	24 31½	20 15		75¼	75½	6	At Annamocka.
	By theſe the watch was 2 h. 10′ 43″¼ ſlower than before. The mean of both is 2 h. 10′ 41″								
☿ —— 29.		Noon.	46 27¼	20 05⅝		76	74½		
	14 21 7½	3 38 24	21 9⅛	20 10	184 55¾	76	76¾	5	
	7 11 57		22 36⅔	19 59¾		75½	75	2	
♃ —— 30.		Noon.	46 44⅔	19 51¼		75¼	75¾		
	7 45 51⅓	20 57 18	27 54 1/12	19 53	183 38½	74½	75	6	
♀ July 1.		Noon.	46 46	19 54⅓		74	75		
	14 58 38	4 8 2½	15 38 11/12	19 57	183 9¾	73½	73¼	6	
	7 23 51⅓	20 28 29½	22 38¼	20 0½	182 2½	75	72	6	
	7 29 28	20 33 56	23 38⅗	20 0½	181 59⅛	75	72	10	
♄ —— 2.		Noon.	46 41	20 3¼		72	72		
	16 2 54		4 8⅔	20 0		72	72½	5	
	6 54 19	19 56 58	16 45	19 45	181 34½	73½	72	6	
	7 1 39	20 4 2	18 9½	19 45	181 34¼	73½	72	6	
☉ —— 3.		Noon.	47 1¼	19 47		73½	74		
	15 11 39	4 13 30½	14 40⅔	19 48	181 28⅛	74	72¼	6	
	6 48 10½	19 48 38	15 3	19 58⅛	181 11	74	74½	6	
	7 11 2	20 11 23	19 29¼	19 58⅔	181 9¼	75½	75½	6	
	7 16 50	20 16 56	20 35⅞	19 58⅔	181 5½	75½	75½	6	
	8 31 36	21 31 32	33 40 11/12	20 0	181 3⅙	76	75½	6	
☽ —— 4.		Noon.	46 48⅞	20 4⅓		76	75½		
	15 12 26½	4 11 27	14 57	20 9	180 51¼	75¼	76¼	6	
	6 38 58⅛	19 35 6	12 4⅓	20 34¾	180 11⅗	78	75	6	
	6 46 46	19 42 49	13 36⅝	20 34¾	180 10⅛	78	75	6	
♂ —— 5.		Noon.	46 20⅛	20 38⅛		76	75⅔		
	8 48 25	21 38 51	34 15	20 53	178 52¼	76	76	6	Cloudy.
☿ —— 6.		Noon.	46 9	20 55⅔		76	76⅓		
	15 53 44	4 42 12	8 28½	20 55½	178 24¾	76	76¼	6	
	7 12 5	19 59 15	16 45⅓	20 53⅔	178 8½	76	75	8	Very cloudy.
♃ —— 7.		Noon.	46 20⅛	20 50⅓		76½	77		
	15 22 42	4 7 12	15 35⅝	20 48⅓	177 30⅔	77½	77¼	6	
	6 58 35	19 41 50	13 26⅓	20 47⅛	177 15⅛	76	75	6	Cloudy.
♀ —— 8.		Noon.	46 35⅝	20 41⅞		77¼	78		
	6 52 6	19 29 16	11 12⅝	20 20	175 49¼	78	77		
♄ —— 9.		Noon.	47 0⅝	20 23⅛		78	78		
☉ —— 10.		Noon.	47 38⅛	19 53⅙		74½	74¾		
	14 47 27½	3 20 3½	25 24⅜	19 43	174 47½	74½	74	6	Cloudy, and bad horizon.

1774	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉'s L L	Latitude South ′	Longitude East by K	Therm A	Therm B	[illegible]	Remarks
☉ July 10.	6 59 41	19 31 36	12 32½	18 49½	174 40¼	73½	73	6	Cloudy
☽ —— 11		Noon	49 13	18 26½		74	74		
	15 28 9	3 57 49	19 10⅓	18 9	174 8½	75	75	6	
	7 3 3	19 31 28	13 8½	17 38	173 53¼	75	74¼	7	
♂ —— 12		Noon	50 27	17 20½		76	76		
	15 46 43	4 12 57	16 38½	17 7	173 22¼	76½	75½	6	Cloudy
	7 2 8	19 27 1½	12 45	16 36½	173 5	75½	75½	6	
☿ —— 13	15 28 8½	3 51 26	21 31½	16 18½	172 42⅞			6	
	6 52 29½	19 13 36	10 18⅞	15 49	172 13½	75½	76	6	
♃ —— 14		Noon	52 25½	15 39¼		77½	78		
	15 15 43	3 35 3½	25 19⅙	15 32⅙	171 48½	78	77	6	
	7 12 21	19 29 8	13 57½	15 13½	171 13¼	77¼	76½	6	
♀ —— 15		Noon	53 4½	15 9¼		78¼	79⅓		
	15 21 13½	3 34 53	25 37⅓	15 9½	170 27¼	80	79	6	
	15 26 55	3 40 30	24 29⅓	15 9½	170 26⅓	80	79	6	
	9 25 43	21 33 24	38 33½	15 5½	169 1¼	78¾	79¼	3	
♄ —— 16		Noon	53 18½	15 5		78¼	79¼		
☉ —— 17	11 6 52½		51 32⅓			78	76½	4	☉ N by E ¼ E at 1st
☽ —— 18	12 16 28½		53 25½	15 3⅙		78½	76½	8	Obs and N 65 W [illegible]
	14 42 10		35 54⅓	15 2¼		78¼	76¼	8	2d ship's course S [illegible]
	14 42 10	2 42 27½	35 54¼	15 14¼	167 20¼	78¼	76½	8	W 5¼ miles an hour
	15 56 27	3 56 52½	21 17⅓	15 19⅙	167 22¼	78	76¼	5	Cloudy
♂ —— 19		Noon	53 41¼	15 12½		76¼	76½		
	15 58 45	3 59 49½	20 47½	15 17⅓	167 36⅙	77	76¼	3	
	16 1 48½	4 2 53½	20 7⅛	15 17½	167 36⅓				
☿ —— 20		Noon	53 36¼	15 28½				3	Ramsden's Quad
			53 36	15 29¼		74½	75		Dollond's Quad
	16 35 35	4 36 32½	12 54¼	15 39	167 37½	75	75	7	
	7 51 33½	19 52 19	18 51⅓	16 6½	167 38	75	74½	6	N E point of Ambrim N 8[illegible] / S point of Whitsun N 57 [illegible]
♃ —— 21		Noon	52 59	16 17⅓		76	77¼		Ramsden's Quad
			52 58½	16 17⅞					Dollond's Quad
	9 41 31½	21 40 54½	39 38½	16 25½	167 21⅓	74	74½	6	In Sandwich's Harbour, in Mallicola.
♀ —— 22		Noon	53 3	16 25½		76½	76	2	
	8 8 13½	20 7 24	22 1⅓	16 25½	167 21½	77	77	6	
♄ —— 23		Noon	53 15¼	16 24½		79	80		Off Sandwich Harbour
	16 5 12	4 4 44	19 34½	16 21	167 25½	79½	78¼	6	S point of Ambrim N [illegible] / Maskelyne's Isles S 16° W
☉ —— 24	8 4 17½	20 6 1½	21 35½	17 6⅛	168 6½	78	77¼	6	Monument S 15 W / Three-hills West
	9 38 49	21 40 9	39 23⅓	17 11¼	168 0¼	78½	77½	6	Three hills N 50° W / Shepherd's Isles N 30 E
☽ —— 25		Noon	52 47¼	17 18½		79	80½	2	Monument N 6 E / Montagu Isle S 61° W
	16 8 52	4 10 18	18 6⅓	17 23	168 3	80	79	5	E end of Montagu S 60 W / Monument N 11 W

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No of Obs.	Remarks.
☽ July 25.	7 29 21½	19 29 44	13 57½	17 21⅓	167 49⅛	79	78¼	6	Monument N. 48° E. E. point of Montagu S. 49° E.
	11 43 41		52 36¼	17 30½	Ship's course E. ½ S. 1½ miles an h. ☉ N. 47° ½ W. at 2d obs.			3	Between Hinchingbroke and Montagu Islands.
♂ —— 26.	13 51 12		43 37					5	
	16 28 52	4 30 20	13 53⅛	17 33	168 6¼	80	81	6	Sandwich Island from S. 36° W. to S. 23° E.
	7 38 41	19 41 48½	16 22⅔	17 52⅔	168 33¼	74¼	74	6	S. end of Sandwich S. 80° W. Traitor's Head S. 24° E.
☿ —— 27.		Noon.	52 31	18 0¼		74	73¼		Erramanga from S. to S. 17° E.
	16 13 55	4 18 13½	16 17 1/12	18 9⅓	168 52½	74⅔	74¾	6	Erramanga S. 1° E. to S. 20° W.
	8 22 20	20 47 44	25 38½	18 25⅔	169 10¼	72	72½	6	Erramanga from S. 26° W. to S. 62° W.
♃ —— 28.		Noon.	52 20½	18 24⅞		71½	71⅓		Traitor's Head S. 38° W.
	16 31 16	4 36 28	12 24⅜	18 24	169 8¼	73	75	6	Traitor's Head S. 29° W.
	7 37 38	19 43 29	16 40	18 27	169 20	72	70½	8	Traitor's Head S. 51° W.
	7 45 28	19 51 20	18 19	18 27	169 20⅛	72	70½	8	
♀ —— 29.		Noon.	52 29	18 30⅓		73	74		Traitor's Head S. 61° W.
	16 28 23	4 33 52	13 0	18 34½	169 15¼	73	72¼	6	Traitor's Head S. 56° W.
	8 53 6½	20 57 22	13 36	18 32½	168 58⅝	71½	70¾	3	Traitor's Head S. 41° W.
♄ —— 30.		Noon.	52 40⅛	18 33½		72¼	72⅔		
	16 27 19½	4 32 0½	13 31⅝	18 30	169 5⅓	75	76¼	6	
	7 40 48	19 44 38	17 10½	18 23	168 54¾	74	73¾	6	Traitor's Head S. 12° W. distant about 7 leagues.
	7 46 45	19 50 41½	18 26⅓	18 23	168 56⅓	74	73¼	3	
	7 59 22	20 3 10½	21 1⅔	18 23	168 53	74	73¼	8	
	9 56 20	22 0 20	42 46⅓	18 22	168 54¾	74	76	6	
☉ —— 31.		Noon.	53 7¼	18 21		75	81		
	16 46 55	4 50 37½	9 40 1/12	18 24	168 53½	75	74½	6	
	8 37 10	20 39 48	28 32⅔	18 24⅔	168 38⅞	74	75¼	8	
	8 42 55	20 45 24	29 39⅞	18 24⅔	168 35¼	74	75¼	8	
☽ Aug. 1.		Noon.	53 10¼	18 32⅓		74	73⅓		Erramanga from S. 12° W. to S. 57° E.
	16 23 42	4 25 34	14 58¼	18 46⅔	168 28	75	76¼	6	Erramanga from N. 8° E. to S. 12° E.
	8 51 25½	20 52 52	31 3	18 45½	168 23⅛	75	76	8	Off Traitor's Head.
	8 58 4	20 59 30½	32 19⅛	18 45½	168 23⅛	75	76	8	
♂ —— 2		Noon.	53 12¼	18 46⅓		78	78½		
	16 47 46	4 49 30	9 58 1/12	18 44	168 28	80	78	6	Erramanga from N. 36° E. to S. 12° E.
	8 42 28	20 45 36½	29 52	18 38	168 48	75	73	8	Traitor's Head S. 16° W. and the land from S. 80° W. to S. 16° E.
	8 51 40	20 54 36½	31 36¼	18 38	168 47½	75	73	8	
☿ —— 3		Noon.	53 37⅓	18 36½		76½	74		Erramanga from S. 71° W. to S. 18° E.
	15 49 58	3 52 37½	22 10⅝	18 41	168 43¾	78	74¼	6	

1774	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉ L L ° ′	Latitude S ° ′	Longitude East by K ° ′	Thermom A	Thermom D	°	Remarks
☿ Aug 3	8 10 35	20 12 55½	23 24½	18 43½	168 40	75	71½	6	At anchor in the
	8 18 10	20 20 32	24 57⅓	18 43½	168 40½	76	71½	6	Bay N of [illegible]
♃ — 4		Noon	53 46½	18 43½		76	78		Head
	15 20 4	3 22 58½	28 18	18 44½	168 48⅞	78½	77	6	[illegible]
	7 7 4	19 10 31	9 57⅘	19 26½	168 58½	75	73	6	Off the entrance of Port Resolution
♀ — 5	10 10 30½		45 4⅕	19 32½		73½	73	5	In Port Resolution
	11 44 20		53 21½			73	74½	5	

♄ — 6 I carried the Watch on shore at Port Resolution, in the island of Tanna [illegible] and noted the times of equal altitudes of the sun by it every day the weather would permit until the 19th (see p 97) From these observations it appeared that the Watch was now gaining 13″,938 a day on mean time, and this rate being [illegible],105 different from that which had been allowed, would, it is plain cause a very considerable error in the situation of Aurora and the lands we first fell in with, as the relative situations of the several points had been determined by it To avoid this I computed the situations of the ship every day at noon, from our making Aurora to arriving at this place; and from thence corrected those of the several points of land which had before been settled by the Watch, according to the rate it was now going at and on supposition that the longitude of Port Resolution is 16[illegible] 58 8″½, which is what the Watch gave it at its Point Venus rate And [illegible] computed the situations of the ship, and all lands seen after leaving Port Resolution on the same suppositions, it is obvious that I had only to determine the absolute error of the Watch at that place, and the true situations of all the other points would follow This error I found to be 0° 42 57 too little, by a mean of 85 sets of observations of the moon's distance from the sun and stars; each set being the mean of from three to twelve single observations And in order to try whether the Watch had kept pretty near this rate all the time we were among these lands, I compared it with a mean of 32 sets of observations at Port Sandwich, with a mean of 48 sets at Pudyoua, or Observatory Isle, where I observed the solar eclipse and with 48 more at Botany Island; and its error at none of these places differed quite 3 from the above. On the 19th, in the morning, we left Port Resolution

1774	Time by Watch K	Apparent Time	Altitude	Latitude S	Longitude East by K	Thermom A	Thermom D	°	Remarks
♄ — 20	7 26 10	19 30 58½	16 27⅙	19 24½	169 32	71½	71½	6	Irronan S 45 [illegible]
☉ — 21		Noon	58 3	19 33½					Irronan N 71 [illegible]
	17 1 28½	6 3 35	8 44½	19 39½	168 52½	72	73½		Erramanga S 12 [illegible]
	7 19 19	19 18 44	14 7½	18 38	168 11½		72	6	
☽ — 22		Noon	59 38½	18 18½		70½	70½	6	Erramanga from S 59 [illegible] to N 76 [illegible]
	16 2 8⅓	4 0 8	23 31½	18 1½	167 50½	72½	75½		[illegible] Head S [illegible]
						73½	74	6	Sandwich Island from N 32 E to N 55 W

1774.	Time by Watch K. H ' "	Apparent Time. H ' "	Altitude of the ☉'s L. L. ° '	Latitude South. ° '	Longitude East by K. ° '	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☽ Aug. 22.	8 0 58¼	19 55 34½	23 7¼	16 46	166 58⅜			6	Mallicola from N. 36° E. to N. 35° W.
	8 7 0	20 1 40	24 28⅓	16 46½	167 1⅜			6	
♂ —— 23.		Noon.	61 53⅞	16 23⅙		74½	73½		Mallicola from S. 35° E. to N. 43° W.
	7 25 32	19 19 4	15 17½	15 47⅓	166 43¼		76¼	4	Cloudy.
	8 53 51½	20 47 42	35 9 9/10	15 40⅙	166 47¼	76½	78½	6	Off Tiera del Espiritu Sancto.
☿ —— 24.		Noon.	63 14½	15 23⅓		77½	81		
	16 49 32	4 43 6	15 1⅞	15 7½	166 42⅞	79	80¼	6	Cape Quiros N. 50° W.
	9 27 32	21 20 7	42 30⅔	14 54½	166 28		79½	6	Cape Quiros East. C. Cumberland N. 66° W.
♃ —— 25.		Noon.	64 2½	14 55½		79¼	81½		Cape Quiros N. 86° E. C. Cumberland N. 58° W.
	14 16 31	2 8 44	48 51⅙	14 53½	166 22¼		81	6	Cape Quiros N. 81° E. C. Cumberland N. 52° W.
	7 52 49	19 44 54½	21 39½	15 6½	166 20½	77¼	76¼	6	Cape Quiros N. 48° W.
	7 56 38	19 48 56	22 34⅞	15 6⅛	166 23⅙	77¼	76¼	4	
♀ —— 26.		Noon.	64 13⅜	15 5		78½	80¼		In the bottom of the Bay of Philip & James.
	16 32 54	4 25 2	19 23⅔	15 10	166 20⅙	81		6	
	7 25 12	19 16 52	15 24 11/12	14 45	166 12½	76½	74½	10	Cape Quiros S. 68½° E. C. Cumberland N. 60° W.
	7 30 3	19 21 44	16 32⅔	14 45	166 12⅗	76½	74¾	4	
♄ —— 27.		Noon.	65 0½	14 39¾		77¾			C. Quiros S. 68°½ E. C. Cumberland S. 88° W.
	15 8 22	2 59 38½	38 54¼	14 37	166 6⅛	78	79½	6	Ditto S. 36° W.
	7 43 11	19 33 31½	19 22⅓	14 47½	165 52¼	77½	78½	6	Ditto N. 40° E.
	7 49 39	19 39 58½	20 52	14 47½	165 52	77½	78½	6	
☉ —— 28.		Noon.	65 10½	14 50⅓		78¾	78½		Ditto, N. 26° E.
	17 3 32	4 54 13½	12 58 1/12	14 48⅖	165 58⅕	80	82¼	6	Ditto, N. 26° E.
	7 50 37	19 40 45½	21 7⅞	14 57⅛	165 50¾	80¼	78	8	Ditto, N. 16° E.
	7 56 58½	19 47 14¼	22 37⅓	14 57⅙	165 50½	80¼	78	8	
☽ —— 29.		Noon.	65 23⅙	14 58⅔		79¾	80		Ditto, N. 19° E.
	7 35 6	19 24 54½	17 27⅞	15 24⅙	165 43¼	78	78	6	Off the West side of Quiros' Tiera del Espiritu Sancto.
♂ —— 30.		Noon.	65 23¾	15 19⅞		79	79		
	15 0 51	2 52 14½	40 41¼	15 21⅓	166 6¼	78¼	79	6	
	17 5 38½	4 56 29½	12 31⅓	15 23⅓	165 57½	78½	79	6	
	7 58 35	19 49 42½	23 12 11/12	15 43⅚	166 2⅙	76½	76	6	
☿ —— 31.		Noon.	65 20⅙	15 45		77½	77		Cape Lisburne N. 52° E. Bartholomew Isle N. 70° E.
	15 19 59	3 12 15½	36 20¼	15 42⅗	166 18⅛		79	6	Cape Lisburne N. 31° W. Bartholomew Isle N. 79° E.
	9 9 57	20 59 10	38 39⅙	16 26	165 32⅜	74½	75	8	
	9 52 17	21 41 36	47 30⅓	16 27⅚	165 33¾			6	
♃ Sept. 1.		Noon.	64 53⅙	16 33 7/10		76	75		
	7 13 42	18 59 54½	11 28 1/12	17 46	164 46⅛	74½	74½	6	
♀ —— 2.		Noon.	63 42¼	18 6¼		75⅔	76½		
	16 44 29	4 30 6½	18 16 1/12	18 21	164 37	75¼	76	6	
	9 0 26	20 44 20	34 44 1/12	19 0⅔	164 10½	74½	71¼	5	Very cloudy.

1774	Time by Watch K	Apparent Time	Altitude of the ☉'s L L	Latitude S	Longitude East by K	Thermom. A	Thermom. B	[illegible]	Remarks
	H ′ ″	H ′ ″							
♄ Sept 3	16 12 13½	3 56 1	25 51 [illegible]	19 12½	164 8¼	74	74	9	
	7 27 23¼	19 10 50	13 46⅚	19 50	164 2½	73	73	6	
☉ — 4		Noon	62 33⅓	19 59¼		74½	71		
	15 43 48	3 27 14¼	32 1 [illegible]	20 5 [illegible]	164 2½	74¼	74½	4	Cape Colenet S 41° E; N Point of Island S 6 W
	8 38 49¼		29 48⅓					10	Very cloudy
☽ — 5		Noon	62 38½ / 62 39¼	20 16¼ / 20 16		75¼	74		Dollond's Quadrant / Ramsden's ditto
See pages 101 to 104 for Observations made on board the ship, at anchor, off Pudyoua									
☽ — 12	10 26 14¼	22 9 48	53 41 [illegible]	20 2	163 50	75	76	6	Pudyoua Isles S 21° W
♂ — 13	15 13 13	2 55 34¼	40 40 [illegible]	19 47	163 31½			8	
	15 20 24¼	3 2 49¼	39 6½	19 47	163 32 [illegible]			10	
☿ — 14		Noon	66 51 [illegible]	19 28 [illegible]		75	76 [illegible]		
	16 26 58	4 8 25	24 44⅓	19 18	163 16	75 [illegible]	79	6	
	16 33 6	4 14 29½	23 21½	19 18	163 15	75 [illegible]	79	3	
	7 13 49	18 55 35	11 52¼	19 9⅓	163 18½	76	71	6	
♃ — 15		Noon	67 27½	19 15¼		78 [illegible]	80		
	15 20 11	3 2 5 [illegible]	39 48⅓	19 18	163 21¼	80	83	4	
	15 25 37	3 7 36	38 36½	19 18	163 22½	80	83	7	Off the reefs which lie N of New Caledonia
	15 30 48	3 12 46	37 27 [illegible]	19 18	163 22¼	80	83	5	
	7 25 4	19 7 32	14 45¼	19 33	163 28 [illegible]	77	76	6	
♀ — 16		Noon	67 31 [illegible]	19 34 [illegible]		77¼	77¼		
	16 31 23	4 14 46	23 31½	19 34	163 41½	78	80	6	
	8 42 3	20 26 53 [illegible]	33 3½	19 49	164 2 [illegible]	76 [illegible]	76 [illegible]	6	
♄ — 17		Noon	67 35 [illegible]	19 53¼		77 [illegible]	77½		
	16 42 1	4 27 8	20 44½	19 59	164 5¼	77 [illegible]	76½	6	
	8 2 37		24 19			76	75¼	3	Very cloudy
☉ — 18		Noon	67 48¼	20 4 [illegible]		77¼	79		
☽ — 19	7 26 3	19 15 35	17 4½	20 25	165 7¼	74½	73	6	
	8 39 22½	20 28 46 [illegible]	33 48 [illegible]	20 29	165 5	75	75	5	Off New Caledonia
♂ — 20		Noon	67 58⅚	20 41 [illegible]		74 [illegible]	73		
	15 51 25	3 40 56	31 33⅞	20 50 [illegible]	165 6 [illegible]	74 [illegible]	73	6	
	7 0 25	18 50 56	11 27 [illegible]	20 52	165 20¼	73 [illegible]	71	6	
☿ — 21		Noon	68 7¼	20 54 [illegible]		74	73¼		The Point above Cape Colenet S 89° W
	16 12 33	4 3 38	26 33 [illegible]	20 57 [illegible]	165 28 [illegible]	74¼	73¼	6	The above Point N 83° W
	7 12 39	19 5 32	14 56 [illegible]	21 12½	165 54 [illegible]	73 [illegible]	71	6	
♃ — 22		Noon	68 0	21 25⅓		74 [illegible]	73 [illegible]		New Caledonia from N 88° W to S 36 E
	16 24 13	4 17 55	23 19 [illegible]	21 37 [illegible]	166 5½	74	72	6	
	7 57 56	19 52 40	25 47 [illegible]	21 51 [illegible]	166 20½	72 [illegible]	71	6	Q. Charlotte's Foreland S 28° E
	9 29 59	21 24 44	46 7 [illegible]	21 51	166 20¼			6	Ditto, S 25° E
♀ — 23		Noon	67 55 [illegible]	21 53 [illegible]		73 [illegible]	73		Ditto, S 23° E

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. D.	No. of Obs.	Remarks.
♀ Sept. 23.	16 3 20⅓	3 58 40	27 47	22 0⅓	166 28¼	74	73½	6	Q. Charlotte's Foreland S. 4° E. & C. Coronation, S. 52° W.
	7 50 25	19 47 0	24 39	21 57⅔	166 46⅛	72¼	72	6	
♄ —— 24.		Noon.	68 13	21 59½		74½	73		Q. Charlotte's Foreland S. 26° W.
	14 51 50	2 48 2¼	43 33¾	22 4	166 40½	73½	74	6	
	7 9 56	19 6 7	15 24⅘	22 8	166 38¼	73	71½	5	
☉ —— 25.		Noon.	68 25⅗	22 10¾		74¾	73½		C. Coronation N. 78° W. & Q. Char. Foreland S. 37° W.
	16 9 38	4 5 38	26 27 9/10	22 20	166 34½	75	74½	6	
	7 13 53¾	19 10 18¾	16 31¾	22 9½	166 40¾	73	72	3	
☽ —— 26.		Noon.	68 43½	22 16		73⅔	73¼		Isle of Pines S. 13°½ E.
	16 22 57	4 20 32	23 14	22 20⅔	166 57⅜	76	73¾	6	Cape Coronation N. 76½° W. Isle of Pines S. 1° E.
	8 59 19¾	20 57 32	40 48⅙	22 34½	167 5¾	72	69	4	
♂ —— 27.		Noon.	68 50⅘	22 32⅓		70½	68¾		Isle of Pines S. 53° W.
	15 55 17¾	3 53 42¼	29 27¾	22 32½	167 8⅛	71½	69	6	Ditto, S. 48° W.
	7 54 1	19 52 28	26 22	22 49⅗	167 7⅞	68¾	69	6	
☿ —— 28.		Noon.	69 1½	22 44⅗		71	71		Ditto, N. 45° E.
	15 11 18	3 7 9½	39 57⅘	22 43⅗	166 28⅜	71	69½	6	Q. Charlotte's Foreland N. 16° W.
	8 5 35		28 44⅓					6	
	9 6 8		42 16	22 29¾		71	73	6	
♃ —— 29.	Dollond's Qu.	Noon.	69 42⅘	22 26¾		72⅔	74		At anchor off Botany Island.
	Ramsden's Q.		69 42¾	22 26⅘					
	14 12 32	2 8 40	52 42¾	22 26⅗	166 31	73½	75	6	
	16 22 49	4 18 54¼	24 3⅛	22 26⅖	166 33¼	75	74½	6	
♀ —— 30.		Noon.	69 58⅓	22 34⅕		74¼	73		
	16 8 17	4 4 56	27 22⅔	22 40	166 37⅛	76	75¼	6	
	7 55 1½	19 53 19	27 3 1/11	22 51⅙	167 1⅛	71⅓	69	6	
♄ Oct. 1.		Noon.	69 59⅕	22 56⅕		72	70⅓		
	16 6 54	18 53¼	26 24⅘	23 2⅖	167 56⅛	73½	69⅓	6	
	7 12 36	19 16 58	18 52	23 17⅛	168 31¼	69¼	66	6	
	7 21 36	19 25 56¼	20 53⅞	23 17⅛	168 31	69¼	66	6	
☉ —— 2.		Noon.	70 0	23 19⅗		69½	66⅛		
	16 7 25	4 13 34¼	25 37⅘	23 19⅘	168 58	71	69½	6	
	9 53 38	22 1 0	54 49½	23 55¼	169 15¾	69	67½	6	
☽ —— 3.		Noon.	69 38½	24 4¾		70¼	68⅓	6	
	15 41 8	3 50 38⅗	30 48½	24 19⅕	169 47	70¼	68¾	6	
	6 42 32	18 54 2	13 52⅓	25 11½	170 16¼	68	66	6	
♂ —— 4.		Noon.	68 37¼	25 28		68½	69⅓		
	15 50 59	4 4 10	27 36⅛	25 42⅔	170 41	69	69	5	
	6 43 55	18 57 24	14 44⅓	26 33⅔	170 44⅞	66	64⅓	6	
☿ —— 5.		Noon.	67 36¾	26 53		67¼	64⅔		
	15 49 49	4 3 48	27 44⅔	27 13	170 52¾	68¼	65⅔	6	
	6 50 26	19 4 50¼	16 30	27 53	170 58¼	65	62	6	
♃ —— 6.		Noon.	67 0¼	27 52		66⅔	65		

1774	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉'s L L	Latitude S ° ′	Longitude East by K ° ′	Thermom A	Thermom B	No. of Obs	Remarks
♃ Oct 6	16 0 34	4 15 0	25 22⅗	27 52	170 58	69	68	6	
	6 47 57½	19 2 5⅕	16 6¼	27 52⅓	170 52⅞	66	63	6	
♀ —— 7		Noon	67 23	27 52⅓		70	71		
	7 2 13½	19 12 45½	18 34½	28 17	170 1⅜	66	64¼	5	
♄ —— 8		Noon	67 13⅗	28 24⅘		68	65¼		
	16 2 55	4 11 34½	26 24	28 32⅓	169 30	69¾	64½	6	
	8 50 19	20 56 10½	40 54½	28 51⅓	168 47⅞		65	6	
☉ —— 9		Noon	67 6½	28 54¾		68	64¼		
	14 42 59	2 47 5	44 22½	28 55	168 25¼	69	62½	6	
	14 49 26	2 53 41	42 55⅓	28 55	168 25½	69	62½	6	
	15 16 15½	3 20 31	37 27	28 55	168 23¼	69	62½	6	
	16 49 28½	4 53 12	17 26⅝	28 56	168 15½	69	62¼	5	
	6 52 59	18 53 12	14 38	28 53	167 22⅗	65½	61¾	6	Norfolk Island S 52° W
	9 46 24	21 46 48	51 16¼	28 54⅗	167 25⅗	66	62	6	Ditto, S 17° W
☽ —— 10	Dollond's Qu	Noon	67 26⅓	28 58		66½	63¾		Ditto, S 12° E
	Ramsden's Q		67 27	28 57½					
	16 30 18	4 30 28	22 36¾	29 0	167 21¾			8	
	16 44 25	4 44 38½	19 31¼	29 0	167 22½			5	Ditto, S 11° W
	7 18 8	19 18 46½	20 23	29 5⅓	167 28⅗	65¾	65	6	Ditto, N. 64° W
♂ —— 11		Noon	67 26	29 21⅓		69¼	66½		Ditto, N 4° W
	14 51 34	2 51 4	43 48⅓	29 29	167 11⅗	69½	64¼	6	
	14 59 2	2 58 42	42 14⅘	29 29	167 14¼	69½	64¼	8	
	7 5 46	19 4 22½	17 23⅙	30 35½	166 57¾	66	63½	6	
☿ —— 12		Noon	66 8¼	31 1½		69¼	66¼		
	15 25 54	3 24 58	36 26½	31 17½	167 4⅞	70½	65¼	8	
	16 55 55	4 55 4	17 38½	31 25½	167 5⅞	70½	65	5	
	7 18 51	19 19 11	20 36⅓	32 39⅓	167 23	65¼	62	6	
♃ —— 13		Noon	64 37⅕	32 54¾		68¾	65¼		
	15 46 15	3 48 2	31 34	33 4½	167 45⅗	70	63	6	
	15 52 37	3 54 36	30 14½	33 4½	167 48½	70	63	6	
	7 14 18	19 18 32	20 35½	33 43	168 22¼	66	61¼	6	
♀ —— 14		Noon	63 52½	34 2⅓		67⅓	65¼		
	16 23 41	4 30 28	22 52 1/11	34 20⅙	169 0	70½	62⅕	6	
	16 31 26	4 38 14½	21 17⅙	34 21	169 0½	70¾	62¼	6	
	16 36 14	4 43 10	20 16⅙	34 21	169 2⅗	70¾	62½	6	
	6 59 15	19 9 6½	18 45½	35 8½	169 46⅗	65	50	6	
♄ —— 15		Noon.	62 45	35 32		67½	65½		
	7 15 34	19 32 37½	23 31⅕	37 9½	171 34¾	64	60½	6	
☉ —— 16		Noon	61 4⅓	37 34¾		66½	63½		Very cloudy
	11 55 41		60 52	37 34	☉ N W at 2d obs			6	
	13 10 1		54 42½		Ship's course S E 5¾ miles an hour			6	
	6 56 21	19 18 24	20 47	38 57½	172 49¾	62¼	58	5	C Egmont S 17° E
	9 37 57	22 0 27½	49 38 1/11	39 12⅕	172 57			6	Ditto, S 72° E
☽ —— 17		Noon	59 37⅓	39 24		64¼	59		Ditto, N 33° E

1774.	Time by Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	Latitude South.	Longitude East by K.	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
	H ′ ″	H ′ ″	° ′	° ′	° ′				
☽ Oct. 17.	These bearings of Cape Egmont are a little doubtful, as we could not be absolutely certain of the Cape Point, on account of the fog over the land.								
	15 2 5	3 25 26	25 1¼	39 49	173 9½	64½	59½	6	In Cook's Straits.

♂ — 18. We got safe moored, the third time, in Queen Charlotte's Sound, New Zealand; and I got my Observatory and Instruments up on the 19th, but, on account of the bad weather, did not get equal altitudes of the Sun before the 22d, on which, and all future days, until November 5th, I compared the Watch with the Clock (see p. 112.). Hence it appeared, that the Watch was then gaining 12″,576 a day on mean time, and that it was 12 h. 9′ 38″,86 too slow for mean time, at Queen Charlotte's Sound, on ♄ October 22d, at noon. The Watch therefore places the Sound, this time, 173° 41′ 28″¼ East of Greenwich; that is, it makes the difference of Longitude between this place and Point Venus, in Otaheite, 36° 43′ 42″¼. I have here supposed the Watch to go at its Point Venus rate till August 7th, and after that time at its Tanna rate.

If we allow the rate it went at, when at Greenwich, before the voyage, all the way from England, it will make the Sound 147° 34′ 26″½ East of Drake's Island, or 143° 18′ 19″ East of Greenwich. Lastly, if it be supposed to have gone at the rate it went at when here last time, (viz. gaining 9″,091 a day on mean time) it ought to have been too slow for mean time, on ♄ November 5th, 1774, by 12 h. 26′ 14″,2; but as it was only 12 h. 6′ 43″ too slow at that time, it will appear to have erred from itself 19′ 31″.2=4° 52′ 48″¾ of longitude in one year all but a day.

The following longitudes of the ship are computed on supposition that the Watch gains 12″,576 a day on mean time, that it was 12 h. 6′ 43″ too slow for mean time, at Queen Charlotte's Sound, on ♄ November 5th, at noon, and that the true longitude of the Sound is 174° 25′½, which is what the mean of all my Observations make it.

♃ Nov. 10.	6 34 57	18 59 12	22 14½	42 18½	175 10	63	58	5	
♀ — 11.		Noon.	64 51½	42 21⅔		64½	60		
	14 18 8½	2 43 13	47 9⅓	42 22⅙	175 24	66	62	6	
	14 23 31	2 48 51½	46 12¼	42 22⅙	175 27⅞	66	62	7	
	15 33 40	3 58 53	33 42¾	42 22⅔	175 26½	67	62½	5	
	6 34 1	18 59 9½	22 26⅓	42 54⅙	175 28½	62⅔	58	6	
♄ — 12.		Noon.	64 16⅙	43 13⅕		64½	61⅔		
	15 45 3	4 12 42	31 14⅔	43 27	176 7⅞	65¾	64	6	
	15 50 35	4 18 26¾	30 13⅒	43 27	176 11	65¾	64	6	
	6 24 17	18 55 0	21 56⅓	44 7	176 58	62⅓	54¾	6	
☽ — 14.	6 28 42	19 13 44	25 40	47 33	180 43	55¼	49½	6	
	9 32 41		54 2¼	47 49½	Ship's course S. E. by E. 4 miles an hour.		51	5	
♂ — 15.	14 55 45		59 12⅔				52	4	
	17 24 35½	6 13 38	11 21¼	48 10	181 45⅕	58	52	6	
	6 8 12	19 1 28	23 48⅚	49 12	182 52¼	53	47¼	6	
☿ — 16.		Noon.	58 58⅕	49 33½		53	50		
	16 58 1¼	5 56 4	14 45⅔	49 58⅓	184 6½	57¼	52	6	

1774	Time by Watch K	Apparent Time	Altitude of the ☉ L L	Latitude South	Longitude East by K	Therm A	Therm B	No of Obs	Remarks
	H	H							
♃ Nov 17	15 15 6	4 22 34¼	29 10¼	51 33½	186 33½	55½	51	6	
	5 36 22	18 51 16	22 40	52 31½	188 28½	50¼	47½	6	
♀ —— 18		Noon	56 16½	52 44½		54	50½		
♄ —— 19		Noon	55 34¼	53 41½		55	49		
☽ —— 21	6 59 28	21 10 9½	42 10½	55 46½	202 37¾	50¼	44	6	
♂ —— 22		Noon	54 7¼	55 48½		52	44¼		Foggy
	6 54 22	21 11 46¼	42 35	55 42½	204 41	51	43½	6	
☿ —— 23		Noon	54 26	55 42½		52	44½		
	13 20 39	3 39 4	36 8	55 42½	204 58	56	48½	5	
	6 40 34	21 6 34	42 12¼	55 33	206 56¾	51	44	6	
♃ —— 24		Noon	54 48½	55 32½		52	46		
	6 30 13	21 13 8	43 20½	55 13½	211 18¼	50¼	43	6	
♀ —— 25		Noon	55 23½	55 9½		52	15¼		
	12 57 19	3 45 58	35 41½	55 7½	212 46½	54¼	43½	6	
♄ —— 26		Noon	55 37¼	55 6½		50¼	43¼		
☉ —— 27		Noon	55 52	55 3		51	44½		
	13 17 59½	4 49 5	27 6¾	55 2¼	223 39	2¼	43½	6	
☿ —— 30		Noon	55 54¼	55 31½		54¼	47¼		
♃ Dec 1	2 2 33		21 6½	55 12½	237 1¼	50¼	44	6	Very hazy and a high fe
	6 40 18		55 5½	54 53½	ON 13° E at 1st Observat Ship's course N E 5 miles an hour			5	Very foggy
♀ —— 2	8 11 2		56 15¼					6	
♄ —— 3		Noon	57 53½	54 0¼		52½	47		
	2 38 17	19 15 28	28 38½	53 21	241 2½	49	40½	6	
☉ —— 4		Noon	58 47½	53 15¼		56½	41¼		
	11 20 42	4 2 58½	34 51½	53 15½	242 27¼	58	41¼	6	
	2 29 53	19 19 58	29 24½	53 9¼	244 30½	50¼	41½	5	
	3 50 46½	20 42 22	41 29½	53 9	244 53½	52¼	41¼	5	
☽ —— 5		Noon	59 2¼	53 7¾		56	43½		
	11 21 24		32 44½	53 6½	246 12¼	58½		6	
♂ —— 6		Noon	59 7	53 10½		56¼	43		
	11 58 22½		24 55	53 12½		60½	43	6	
	2 13 9½	19 32 37½	31 19½	53 17½	252 9¾	48¼	43½	6	
☿ —— 7		Noon	59 17	53 19½		52	46½		
	10 4 26	3 27 48	40 13¾	53 20	253 11½	60½	48	6	Cloudy
	10 7 59	3 31 33½	39 41½	53 20	253 14½	60½	48	2	Very cloudy
	11 23 37	4 47 34½	28 30¼	53 20½	253 20¾	61	50	(	
	2 51 11	20 20 57	38 37¾	53 29	254 54½	53½	44½	(	
♃ —— 8		Noon	59 0¼	53 30¼		62	47		Ramsden's Quad
♀ —— 9			58 59½	53 31½					Dollond's
		Noon	59 0½	53 37½		63¼	47½		
	2 8 30	19 45 54	33 37¾	53 50½	258 23½	53¼	44½	/	Cloudy and a bad horizon
♄ —— 10	10 26 59½	4 15 56	33 23¾	53 46½	260 4¾	59	44½	(	
☉ —— 11	10 4 23	4 11 26½	34 9½	53 29	264 46½	60	44¼	(	
	2 50 50	21 8 17¼	45 26½	53 26½	267 29¾	53½	44½	5	Cloudy

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude South. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☽ Dec. 12.		Noon.	59 28¼	53 24½		61¼	44¾		
	8 43 40	3 5 5½	43 46	53 22½	268 31⅕	64¼	47	8	
	8 52 48⅘	3 14 32	42 27½	53 22½	268 36¼	64¾	47	8	
	10 17 12	4 39 14½	30 6½	53 22½	268 41⅓	68¼	46¼	6	
	2 17 39	20 43 33½	42 13⅓	53 23⅔	269 46	58¼	44¼	6	
♂ — 13.		Noon.	59 33⅞	53 23¼		62½	47		
	9 38 21	4 7 53½	34 47⅗	53 23⅙	270 44⅞	63¼	45¼	6	
	2 3 21	20 41 58	42 4½	53 25	273 7¼	58	44¼	6	
☿ — 14.		Noon.	59 36¼	53 25⅔		62	46¼		
	10 39 1	5 22 4	23 50¼	53 26	274 17¼	67	45½	5	
	1 37 26	20 27 58½	40 5⅙	53 29¼	276 16½	56	45	6	
♃ — 15.		Noon.	59 34¼	53 30½		62¼	46¼		
	10 47 6½	5 44 6	20 41¼	53 30½	277 55¼	62¼	45⅓	6	
	23 58 41	19 2 42½	27 35¼	53 27⅙	279 48¼	52	44	6	
♀ — 16.		Noon.	59 41⅔	53 26⅔		62	46		
	9 32 4	4 41 41½	29 55⅔	53 25⅕	281 16½	62	46½	6	
	1 26 0½	20 43 3	42 19½	53 25	283 14½	62¾	45	6	
♄ — 17.		Noon.	59 48⅔	53 21⅞		62¼	47		
	8 47 32	4 8 49½	34 50⅔	53 17⅓	284 21⅓	62¾	47	6	
	23 10 54½	18 39 35	24 15¼	53 41⅔	286 18⅓			6	
	2 57 23		54 35½	☉N. 17° E.	The Ship's course S. E. 6½ miles an hour. The latitudes deduced were, 54° 13′½, and 54° 13′⅔.			5	
☉ — 18.		Noon.	58 58¼:	54 13⅞					Cape Gloucester N. *true.* Cape Noir S. 62° E.
	4 41 56		58 53⁹⁄₁₀					5	
	6 29 57		51 50⅙	☉N. 68° W.				5	Cape Noir S. 62° E.
	8 45 30	4 17 18½	13 28¾	54 36½	287 9½		50	6	Cape Noir N. 2° W.
	22 13 42	17 50 44	17 37⅕	55 13⅙	288 34::	54	45½	5	Cape Desolation N. 4° E.
	0 59 36½	20 38 42½	41 9	55 17½	289 6¼	59	46½	6	C. Desolation N. 56° W. Gilbert's Isle N. 62° E.
☽ — 19		Noon.	57 54	55 20½		64¾	50¼		Gilbert's Isle N. *true.*
	8 44 46	4 24 26½	32 23	55 30½	289 18¼	65½	48	6	
	23 25 48	19 7 26½	28 25⅓	55 38⅔	289 54¼	65¼	54	6	York Minster N. 17° E.
♂ — 20.		Noon.	57 36	55 39¼		65¼	54		York Minster N. 6° W.
	8 32 21	4 15 2½	33 43½	55 31⅙	290 15	68	53½	6	

This evening we anchored in Christmas Sound, on the S. W. side of Terra del Fuego, where I found that the watch was gaining 12″,377 a day on mean time, which is so near what it was gaining at New Zealand, that I made no difference in the manner of computing the longitude of the ship by it. It made the longitude of Christmas Sound 290° 19′ 41″¼ East of Greenwich.

☿ — 28.	9 33 9	5 13 48	25 20⅓	55 49½	291 5½			8	St. Ildefonso's Isles S. 40° to 50° W.
	0 50 57	20 39 1½	40 50⅙:	55 56½	293 6¼	58	49½	7	C. Horne S. 63° W. about 6 miles off.

1774	Time by Watch K	Apparent Time	Altitude of the ☉'s L. L.	Latitude South	Longitude East by K	Thermom. A	Thermom. B	No of K	Remarks.
	H ′ ″	H ′ ″		′	° ′				
♃ Dec. 29		Noon	57 21⅓	55 43⅞		64	52½		Barnevelt's Isles S 38° W. Evout's Isle N 69° W
	8 6 42	3 59 42	35 43¾	55 28	294 24¾	64$^{\perp}$	53	8	
	9 55 57	5 49 52	20 12⅙	55 20	294 38¼	66	52¾	6	
	1 6 4	21 1 32	44 9⅙	54 52$^{\perp}$	295 8⅓	63	54	6	Success Bay N W
♀ —— 30		Noon	58 8⅓	54 53		65	56⅓		Success Bay S 81° W C Diego N 45° W and C St. Anthony N 45 E.
	9 41 42	5 36 50	21 54⅓	54 55	295 7¼	65	54	6	C. of Good Success S 56° W C. St Diego N 15 W
♄ —— 31		Noon	58 15	54 42$^{\perp}$		62	52¼		
	8 38 17	4 37 2	30 24⅞	54 41	296 9⅙			6	At anchor off New Year's Island
	9 36 16	5 34 49	22 7⅙	54 41	296 8⅓	63¼	51¼	6	
	23 13 33	19 11 25$_{\top}$	28 42$_{\top}$	54 41	296 4⅓	59½	52	6	
1775 ☉ Jan. 1		Noon	58 3	54 48$_{\top\top}$	No dip				In New Year's Harbour, Staten Land
			58 12	54 40$_{\top\top}$	Dip 3 30″				Observed by C Cook on the N E. point of New Year's Island
	0 14 41	20 11 54	37 17$^{\perp}$	54 41	296 8¾	59¾	47	6	At anchor off New Year's Isles
☽ —— 2	2 26 7$^{\perp}$		53 21⅓	54 41		56$^{\perp}$	47$^{\perp}$	5	
	6 40 36		46 42¼			64¼	49$_{\top}$	2	
	6 52 14		45 12$^{\perp}$			64¼	49$_{\top}$	5	
	8 45 16	4 42 13$_{\top}$	29 32⅓	54 41	296 6	67¼	51¼	6	
	22 22 18	18 20 3	21 13$_{\top}$	54 46$_{\top}$	296 22¼	57¼	49	5	C St Juan S. 54° W distant about 5 miles
	1 9 12$^{\perp}$	21 6 40	44 32½	54 54	296 19⅞			6	C St Bartholomew S 59° W C S Juan N
♂ —— 3		Noon	57 47	54 55⅘		44$^{\perp}$	52$^{\perp}$		C St Juan N 2° W
	7 36 55	3 34 24	39 3¼	54 53	296 22⅙			4	Ditto N 2° W
	22 22 55$^{\perp}$	18 25 40	22 0⅓	55 11$_{\top}$	297 47$^{\perp}$	54⅓	47	6	
☿ —— 4		Noon	57 4⅓	55 32$_{\top}$		60	51		
	22 53 28	19 8 29$_{\top}$	27 56	56 47⅗	300 59¼	50	44	6	
♃ —— 5		Noon	55 22⅓	57 8$_{\top}$		59	47		
	9 11 46	5 33 16	22 19⅓	57 17$_{\top}$	302 43¼	64	46$^{\perp}$	5	
	0 37 48$_{\top}$	21 8 45⅓	43 9$_{\top\top}$	57 47	305 11⅓	55¼	43	6	
♀ —— 6	4 1 7$_{\top}$		53 59$_{\top}$	57 53$_{\top}$	Ship's course E 6 miles an hour		41$^{\perp}$	6	
	5 45 37$_{\top}$		46 27¼				42½	7	
	7 24 34	4 0 10	34 33$_{\top}$	58 2	306 26¼	67¼	43	8	Cloudy
	10 30 29	19 9 11	27 52⅓	57 20$_{\top}$	307 16¼	47	40$_{\top}$	8	Bad horizon
♄ —— 7		Noon	55 16⅞	57 0⅓		61	40$_{\top}$		
	7 50 50	4 28 44	30 53⅙	56 37⅙	307 8¼	62	43	6	
☉ —— 8	23 24 30	20 4 50	35 35⅓	55 14⅓	307 54⅙	51⅛	44	6	
		Noon	57 0⅓	55 8$_{\top}$		61⅓	49		
☽ —— 9	7 31 16	4 14 28	32 58⅙	55 4$_{\top}$	308 37¼	67$^{\perp}$	50$^{\perp}$	6	
		Noon	56 49½	55 11⅞		63	43½		

1775.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♂ Jan. 10.		Noon.	57 17¼	54 35½		66½	45		Very cloudy.
	21 39 13	18 44 36	23 57⅔	54 38⅓	314 34¼	51½	42½	6	
☿ —— 11.		Noon.	57 7⅔	54 36⅘			47		
	7 4 18	4 14 18	32 43⅘	54 35½	315 47½	69	45	6	
♃ —— 12.		Noon.	57 6½	54 28½		59½	42½		
♄ —— 14.		Noon.	57 18¼	53 56⅓		61½	37⅓		
	6 47 5	4 15 42	32 13⅔	53 57⅙	320 53¼	61½	37¼	6	Willis's Isle N. 83° E.
	7 47 29	5 16 6¼	23 22½	53 57⅚	320 54	62½	37½	4	
☽ —— 16.		Noon.	56 28 1/10	54 25½		57¼	39¼		
	6 26 5	3 58 0	34 28¼	54 8½	321 59⅗			6	
	20 57 12	18 32 54	21 24⅔	53 58	323 1¼	52	35½	6	Possession Bay S. 25° E.
♂ —— 17.		Noon.	56 41¼	54 0¼		61¼	39½		C. Buller N. 85° W. Cape Saunders S. 85° E. and Possession Bay S. by E. 5 miles.
	5 53 16½	3 30 38⅔	38 12⅔	54 3½	323 29½	62	39⅓	6	
	21 6 57	18 47 5⅓	23 21⅓	54 21	324 16½	49⅓	37½	6	Cooper's Island S. 18° E. Cape Saunders N. 78° W.
☿ —— 18.		Noon.	56 0⅔	54 30½		62	43		Cooper's Island S. 2° W. Cape George S. 67° W.
	5 59 17	3 40 26	36 32⅓	54 35	324 34⅗	66½	41½	6	Cooper's Island S. 17° W.
	21 46 52	19 28 16	29 8⅓	54 42⅙	324 42⅞	49¼	37½	6	Ditto, S. 53° W. Clerke's Isles E. S. E.
♃ —— 19.		Noon.	55 35¼	64 42⅔		60⅓	45		C. Charlotte S. 40° W. A rock off Sandwich Bay S. 80° W.
	6 1 59	3 43 0	35 57½	54 47⅓	324 40¼	61	42	6	
	20 49 3	18 27 49	20 19	55 0⅔	324 11½	52	39	6	Cooper's Island N. 21° E. C. Disappoint. N. 57° W.
♀ —— 20.		Noon.	55 2½	55 3½		66	43		Pickersgill's Island N. 59° W. C. Disappoint. N. 11° W.
	6 38 0	4 18 25	30 45	55 10⅙	324 39	62½	39	6	
	6 56 16	4 41 18	27 19½	55 15	325 55⅞	68	40	6	The horizon bad.
☿ —— 25.	2 21 46		52 53⅜	56 0⅞	☉ N. 78° W. at 2d Obs. Ship's course E. by S. 5 miles an hour.			5	
	5 48 56		34 53⅓					5	
	6 28 35	4 18 54½	29 36	56 9⅛	327 43½			4	
	20 39 9	18 35 40	20 28⅛	57 8⅓	329 20	47½	42½	5	
	20 41 40	18 37 55	20 47	57 8⅓	329 16	47½	42½	5	
♃ —— 26.		Noon.	51 4⅓	57 38½		62	41½		
	20 48 8	18 44 20	21 28⅘	59 15	329 21⅞	49½	39	7	
♀ —— 27.	23 0 47½	21 0 24	37 21 1/10	60 4⅙	330 29⅙	60½	35½	5	Foggy.
♄ —— 28.		Noon.	48 7⅓	60 5⅙		63	37		Ditto.
	6 57 29½	5 0 0	23 7	60 5⅙	331 5	63½	33½	4	Very cloudy.
☉ —— 29.		Noon.	47 55½	60 1½ :		64	39		Ditto.
♂ —— 31.		Noon.	48 12½	59 12⅛		61	37		Thule S. S. W. 7 or 8 leagues off.
	5 2 29	3 11 32	35 46½	59 6	333 0½	65	39½	6	

1775	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉ L L	Latitude South	Longitude East by K	Thermom. A	Thermom. D	[illegible]	Remarks
♂ Jan 31	20 1 52	18 11 14	16 4	58 37½	333 8¼	48¼	33¼	5	C. Montagu N 45 E
☿ Feb. 1		Noon	48 42⅞	58 25		64¼	39		Ditto E & Friesland Peak S 26 E
	5 2 40	3 11 53½	35 51⅙	58 21½	333 8⅙	66	35	4	
♃ — 2	7 49 53	5 59 50	14 10	57 48⅙	333 24¼	62	37	6	
♀ — 3	2 10 48		49 11⅓			61¼	66	4	
	21 14 1½	19 27 38½	25 33⅘	56 44	334 27	56	36¼	4	
♄ — 4		Noon	49 32	56 44		64	38		
	20 43 7	19 1 48	21 46	57 6	335 47¼	46	36¼	8	A bad horizon
☉ — 5	7 14 26	5 38 1	16 17	57 16	337 3	57	37	6	
☽ — 6	20 23 14	19 1 22	26 7	58 21	340 48⅙			1	
	22 8 3	20 47 46½	34 19	58 21½	341 12⅙	50¼	38	6	
♂ — 7		Noon	46 55¼	58 26¼		56	37½		
	1 33 11		46 51⅓	58 24	☉ N 58° W at 2d Observation Ship's course E 8 miles an hour			6	
	3 38 57		39 19¼					6	
	6 50 28½	5 39 13	15 42¼	58 28½	343 29¼	57	35	8	
	20 1 29	18 55 58½	20 8⅓	58 29½	344 57⅛	45¼	35	6	
☿ — 8		Noon	46 33⅓	58 29⅞		59¼	37½		
	19 15 0	18 16 56	14 48¼	58 28	346 52⅓	47¼	35	3	
	20 31 36	19 33 40	24 44¼	58 28	346 54⅞	52	35¼	6	
♃ — 9			46 18¼	58 26		62¼	40		
	5 9 58	4 13 34⅓	26 16	58 26	347 19⅓	67	40	6	
	18 58 57½	18 6 52	13 11	58 17	348 25¼	50	33	6	
♀ — 10		Noon	46 10⅓	58 15		60	34		
	4 59 18	4 15 6	25 50⅙	58 16	350 25½	61	34	2	
	22 6 52	21 28 52	37 44	58 7	352 0¼	61	34	6	
♄ — 11		Noon	45 54	58 6		46	36		
	19 20 3	18 46 38½	17 51	58 23	353 12½	50¼	33		
☉ — 12		Noon	45 26	58 20⅓		66	37		
	5 2 8	4 30 26½	23 19	58 20	353 29⅓	67	35½	6	
	19 19 6	18 51 48	18 15	58 2	354 47			5	
☽ — 13		Noon	45 30⅓	57 56¼		59¼	33		
	19 42 35	19 31 10½	23 16	57 28¼	358 48¼	43	32	6	A great sea.
♂ — 14		Noon	45 43½	57 23¼		52¼	32		
	4 24 24	4 19 36	24 23	57 20	0 28½	54½	37	8	An exceeding high sea.
	19 12 54½	19 19 42	21 35⅓	56 47⅛	3 23½	43	34	3	Cloudy & a great sea
	19 56 23½	20 3 32	27 23	56 46½	3 29⅙	46	34	6	

Having now made upwards of 360° of Longitude, I rejected a circle, and repeated ♂ February 14th, to make my day correspond with the day at Greenwich

♂ — 14		Noon	46 9⅓	56 37⅓		56¼	35¼		
	4 20 34	4 33 54½	22 26	56 18	5 3⅙	57	35¼	6	
☿ — 15	20 7 21	20 24 8	30 13¼	55 30	5 56⅙	50	35¼	6	A troublesome sea
		Noon	47 0¼	55 26		58	36½		

1775.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♃ Feb. 16.	4 39 55	4 59 54	18 28¼	54 24⅛	6 47½	60	33½	6	
	19 16 40	19 43 4	24 27¼	54 21½	8 24½	50	33	6	
♀ —— 17.		Noon.	47 21⅛	54 23⅞		58¼	36		
	3 44 4	4 15 14¼	24 35½	54 25	9 36¼	65	36½	6	
♄ —— 18.		Noon.	47 0½	54 23		61¼	34½		Very cloudy.
☉ —— 19.	20 0 22½	20 57 0	33 30½	54 13⅛	16 3		36½	6	
☽ —— 20.		Noon.	46 26	54 15⅔		56	40		
	19 33 4	20 39 53¼	3 56	54 25⅔	18 37½	55	36	6	
♂ —— 21.		Noon.	45 55½::	54 24⅔		61	37		Cloudy.
	3 5 38	4 16 5½	23 18⅞	54 22⅔	19 32½	64	37	8	Cloudy and bad horizon.
	18 16 19		21 43	55 4	21 36½	47½	35	3	Cloudy.
	18 21 48¼	19 40 8	22 24 9/10	55 4	21 31½	47½	35	2	Very cloudy.
	21 11 21		41 36½		Ship's course S.		36	5	
	22 26 10		44 44½	55 11	E. ¼ E. 5½ miles		36	2	Very cloudy.
☿ —— 22.	23 23 19		43 53½		an hour.			5	
♃ —— 23.		Noon.	45 10½	54 26½		61¼	35½		
	18 16 42	19 56 9	24 28½	53 9⅔	26 35	50	37	4	Ditto.
	19 22 52	21 1 15¼	33 23 1/12	53 5½	26 34	52	38	8	Cloudy.
♀ —— 24.		Noon.	46 23½	52 51¼		59¼	38½		
	17 33 29¼	19 20 6¼	19 32	50 52⅛	28 38			5	
♄ —— 25.		Noon.	48 19	50 33½		54	41		
	18 7 45	19 59 43	25 38½	49 37	29 58½	56	40⅔	6	
	19 45 24	21 37 44	39 24⅛	49 31½	30 4⅛	59	42	6	Ditto.
☉ —— 26.		Noon.	49 9½	49 20¼		62¼	45¼		
☽ —— 27.		Noon.	50 9¼	47 58⅔		66⅔	47		
♂ —— 28.	23 5 20⅔		47 44½	46 54	☉ N. 31 W. at 2d Observation. Ship's course N. W. 4½ miles an h.			6	Bad horizon.
	0 39 41½		37 0					5	
	2 25 28	4 32 46¼	20 25½	46 49	33 46⅞	63¼	43½	6	
☿ March 1.	17 27 0¼	19 24 33	19 39⅔	45 54	31 24			8	Very cloudy.
♃ —— 2.		Noon.	51 27	45 32⅔		54½	47		
	2 11 56	4 8 4	44 24½	45 14	31 2¼	54	43	6	
	17 18 13	19 11 28	17 25½	44 8½	30 19½	49	42	6	
♀ —— 3.		Noon.	52 43¼	43 53½		49½	44		
	2 27 0	4 19 24	22 35	43 34⅛	30 6¼	52½	44	6	
	17 29 16	19 19 3	18 34½	43 43⅓	29 27¼	53½	51¼	10	Very hazy.
♄ —— 4.		Noon.	52 26⅔	43 46¼		56½	55		
	1 45 5	3 32 34	30 16⅔	43 49½	28 52⅞	59	57	3	
	1 56 28	3 44 9¼	28 21	43 49½	28 55	59	57	6	
	17 33 24¼	19 15 46	17 39⅛	44 5½	27 35¼	56¼	53	6	
☉ —— 5.		Noon.	52 1	43 49¼		58¼	50½		
	17 41 3	19 23 29	18 59½	42 44½	27 36½	54	51½	6	
☽ —— 6.		Noon.	53 3¼	42 23¼		56½	52½		
	1 7 35	2 50 1¼	37 29	42 14		59¼	54	2	
	17 9 32	18 49 18	12 37½	41 33	26 55¼	57¼	57	6	

1775	Time by Watch K H ′ ″	Apparent Time H ′ ″	Alt. of the ⊙ L. L. ° ′	Latitude S ° ′	Longitude E by K ° ′	A	B	C	R
♂ March 7		Noon	53 17	41 15		63	61		
	1 29 27	3 7 4	34 2	41 9	[illegible]	64	[illegible]	7	
	17 54 2	19 31 6	20 13	41 51	26 27	65	62	6	
☿ —— 8		Noon	5[illegible]	41 47		6[illegible]	61		
	17 22 59	18 57 51	13 5[illegible]	42 1	5 11	60	[illegible]	6	
♃ —— 9		Noon	52 10	42 6		67	63		
	3 0 49	4 32 36	18 54	42 9	[illegible]	57	60	6	
	18 5 37	19 36 9	20 32	41 10	1 35	58	[illegible]	10	Very cloudy
♀ —— 10		Noon	52 56	40 50		59	6[illegible]		
	1 55 25	3 44 41	51 5[illegible]	40 50	21 10	60	52	7	
	2 26 6	3 55 21	[illegible] 42	40 19	[illegible] 16	61	6[illegible]	10	
	17 37 31½	19 6 37	14 59	40 3	21 12	57	[illegible]	6	
♄ —— 11		Noon	53 20	40 2		59	57		
	20 37 6	22 8 20	46 4	38 57	1 13	61	61	6	Very cloudy
☉ —— 12		Noon	54 15	38 50		61	60		
	1 34 25	3 4 17	31 [illegible]	38 41	4	6[illegible]	63	6	
	19 39 19	21 4 48	36 [illegible]	37 33	[illegible] 16	6[illegible]	6[illegible]	5	
☽ —— 13		Noon	56 [illegible]	37 18		7[illegible]	[illegible]		
	1 45 29	3 7 34	31 5	37 5	[illegible]	73	72	6	
	19 24 36	20 46 51	3[illegible]	36 38	2[illegible] 8	7[illegible]	70	6	
♂ —— 14		Noon	56 51	36 7		7[illegible]	7[illegible]		
	2 33 22	3 56 1[illegible]	2[illegible] 5[illegible]	36 18	[illegible] 5[illegible]	78	70	6	
	17 37 38	18 59 56	1[illegible] 10	35 0	3 10	71	69	6	
☿ —— 15		Noon	56 39	3[illegible] 1		71	72		
	2 55 55	4 18 31	[illegible] 40	35 2[illegible]	23 6	73	69	10	
	18 50 11	20 1 8	27 33	34 19	2 19	69	67	6	
♃ —— 16		Noon	56 12	34 49		71	69		
	2 16 27	3 37 41	29 6[illegible]	34 19	22 9	71	[illegible]	6	
	17 45 23	19 2 38	13 28	34 56	21 8	70	69	6	
♀ —— 17		Noon	56 51	35 2		70	70		
	2 16 6	4 3 21	24 4[illegible]	35 7	21 10	70	69	6	
	17 47 46		13 3	34 53	[illegible]	70	6[illegible]	6	
♄ —— 18		Noon	55 11	34 59		71	70		
	21 37 12	22 46 1[illegible]	1 31	34 1[illegible]	20 25	67	65	4	
☉ —— 19		Noon	55 29	34 51		67	6[illegible]		
	1 31 38	2 17 2[illegible]	[illegible] 50	34 57	20 8	67	65	6	
	19 40 28		13 0	34 18		67	65	6	The Table hill E by N
☽ —— 20		Noon	5[illegible] 43	34 13		66	66		The Table hill N 8° E
♂ —— 21	0 51 37	1 59 55	15 32		18 48	79	76	5	In Table Bay

♃ —— 23 I carried the watch on shore at the Cape of Good Hope, and compared it with the clock every day from the 24th to ☉ April 23, (see p. 132). From these comparisons it appeared that the watch was then gaining 1″,204 a day on mean time, that it was too slow for mean time at the Cape on ☿ Mar[illegible] at noon by 1h 14′ 15″,6 and gave the longitude of the Cape Town 18° 36′ 40″ East of Greenwich, reckoning in the manner which I did in our passage from New Zealand

1775.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	B.	No. of Obs.	Remarks.

♃ March 23. If we reckon all the way from England at its Greenwich rate, it will place the Cape Town 343° 15′ 47″½ East of Drake's Island, or 338° 59′½ East of Greenwich.

	H ′ ″
It will be found, (p. 14.) that the watch was too slow for mean time at the Cape, on Nov. 14 at noon 1772, by — —	1 30 50,3
It stopped June 28, 1774, — — — —	2 10 41,0
Their sum is — — — —	3 41 31,3
The watch ought to have gained between Nov. 14, 1772, and March 24, 1775, according to the rate it was going at when here last	0 17 12,0
Hence it ought to have been too slow, March 24 at noon, by —	3 24 19,3
I found it actually too slow that day at noon, by — —	1 14 15,6
The difference is — — — —	2 10 3,7

equal to 32° 30′ 55″½ of longitude, the error of the watch in two years and five months nearly.

The following longitudes of the ship are computed, on supposition that the watch gains as above-mentioned, that it was too slow for mean time at the Cape on ☉ April 23 at noon, by 1 h. 7′ 38″,48, and that the longitude of the Cape Town is 18° 23′ 15″ East, as was determined by Messrs. Mason and Dixon, in the year 1761.

1775.	Time by Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	Latitude S.	Longitude East by K.	Thermom. A.	B.	No. of Obs.	Remarks.
♃ April 27.	18 40 19	19 42 53¾	12 34⅓	33 4	16 42⅞	63½	63¾	6	
♀ —— 28.		Noon.	42 49½	32 50		66	68½		
	18 39 42½	19 32 10½	10 55⅔	31 45⅔	14 12⅓	65¼	64	6	
♄ —— 29.		Noon.	43 49⅔	31 31		66			
	18 46 3	19 29 4	10 39⅓	30 29	11 51½	64½	62	5	
☉ —— 30.		Noon.	44 44⅓	30 17⅔		64	63¾		
	19 2 6⅔	19 38 20	12 43⅓	29 21	10 11½	63⅔	63¾	3	
☽ May 1.		Noon.	45 31½	29 11⅞		65⅓	66¼		
	4 20 30	4 54 30¼	6 18⅘	29 1⅓	9 38⅓	67	65	6	
	20 15 11	20 44 55	25 32⅓	28 20½	8 35⅓	66	65¾	6	
♂ —— 2.		Noon.	46 14⅓	28 11⅓		67	66⅗		
	4 23 44	4 51 33	7 6⅞	28 0⅔	8 7½	68	66¾	5	
	18 58 31	19 22 28	10 12	27 12½	7 10	68½	67	6	
☿ —— 3.		Noon.	47 7::	27 0⅓		70	69		Cloudy.
	23 49 14		47 0⅘	27 1	Ship's course N.N.W. ½ W. 3½ miles an h.	69		5	
	0 44 39		44 6½			69		5	
	3 46 56	4 9 18	15 54 1/11	26 50	6 47	71¼	68½	5	
	19 2 56	19 24 53½	10 41⅞	26 42⅙	6 41⅓	69½	66½	6	
♃ —— 4.		Noon.	47 16	26 34 1/11		69½	67⅔		
	3 45 34½	4 6 44	16 26⅕	26 25⅚	6 30½	70½	68¼	5	
♀ —— 5.		Noon.	47 30½	26 2		71⅔	67		Cloudy.

1775	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉ L L	Latitude South	Longitude East by K	Thermom A	Thermom B	No of Obs	Remarks
♀ May 5	21 39 55		38 14½	25 8½	5 5	68	65½	6	Very cloudy
♄ —— 6		Noon	48 15	25 0¼		68½	66		Cloudy
	3 44 19		18 38½	24 45⅗	4 40½	68½	67	3	Ditto
	19 15 47	19 25 16	11 33⅙	23 44½	3 40⅛	66½	65¾	6	
☉ —— 7		Noon	49 31½	23 27½		68	67½		
	4 39 3	4 45 46½	9 25½	23 11½	3 9¾	68	66½	5	
	19 7 36¾	19 11 2½	8 59½	22 23½	2 12⅛	66¼	65¾	6	
☽ —— 8		Noon	50 37½	22 5		67½	68		
	3 37 3¾	3 37 57⅓	23 43 9/10	21 55	1 35	67	67¼	6	
	20 4 17	20 0 56	9 50⅛	21 1⅓	0 33	68	67½	4	
♂ —— 9		Noon	51 40	20 46¾		68⅓	68⅓		
	4 9 35	4 3 50½	19 2⅔	20 34⅓	0 2⅛	68¾	67¾	6	
	19 27 11	19 18 12	11 16	19 49	0 48¾	68	67½	6	
☿ —— 10		Noon	52 30¾	19 39⅔		69½	69¾		
	21 9 39	20 56 5½	31 29⅔	19 3½	1 55	69¾	70	6	
♃ —— 11		Noon	53 2	18 52⅗		72	70¾		
	3 58 13	3 43 4	23 54⅓	18 45½	2 20¾	72½	70	6	
	19 37 19	19 20 54½	12 9½	18 32½	2 35	70½	69½	6	
♀ —— 12		Noon	53 12	18 27½		72½	72½		
	4 33 31½	4 16 16	17 1½	18 22⅗	2 46⅞	73¼	71	5	
	19 39 37	19 20 56	12 19	17 54½	3 6⅛	71	70¾	5	
♄ —— 13		Noon	53 41⅗	17 43		73	74		
	4 23 44	4 3 26½	20 1⅛	17 34⅙	3 29¾	72¼	72½	6	
	20 10 2	19 47 22½	18 18	16 56⅗	4 2⅞	70¾	70	6	
☉ —— 14		Noon	54 23½	16 46½		73	72¾		
	4 24 31	3 59 53	21 4½	16 39⅙	4 31⅜	74	72½	6	
	5 14 27½	4 49 46½	10 22⅘	16 37⅙	4 31¾	73¾	72¾	6	
	19 41 33	19 14 62	11 31⅓	16 10	4 57⅜	72	71	6	
☽ —— 15		Noon	54 53¾	16 1¾		73½	72		
	4 45 2½	4 16 4	17 52¾	15 56½	5 33	73	72⅓	6	
	22 16 58	21 46 56	41 53⅓	15 55⅓	5 46⅜		73½	6	
♂ —— 16		Noon	54 45⅞	15 55⅜		73½	75⅓		
	4 52 33½	4 22 29	16 24½	15 55⅓	5 46¾	73¾	73	6	On board the ship at anchor off James's Fort, St Helena
	22 1 29	21 31 16	39 2	15 55⅓	5 45⅜	72¾	71	5	
☿ —— 17		Noon	54 32⅗	15 55⅓		73	73		
	6 5 43	4 35 17½	13 33⅗	15 55⅓	5 47¾	74	73½	6	
♃ —— 18		Noon	54 19	15 55½		73	72¾		
☉ —— 21	21 17 25	20 43 53½	29 45½	15 33⅙	6 15¾	72⅓	70	6	Very cloudy
☽ —— 22		Noon	54 0½	15 24		70½	70		Ditto
	20 44 55	20 5 30½	22 15½	14 45¾	7 39½	72½	72⅓	6	Cloudy
	21 45 30	21 5 36	34 19½	14 43	7 46⅞	73	73½	8	Ditto
♂ —— 23		Noon	54 39¾	14 33½		75	74¾		Ditto
	20 7 40½	19 20 33⅓	13 4⅞	13 45	9 31	73½	72⅓	10	
	10 13 46	19 26 47	14 26⅛	13 45	9 28⅞	73½	72⅓	5	
☿ —— 24		Noon	55 31	13 30½		74¾	73		
	20 31 31	19 38 44	17 42⅞	12 6½	10 51⅛	75	72¾	10	

1775.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude West by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☿ May 24.	20 40 25½	19 47 46	19 39⅗	12 5⅗	10 49¼	75	73	6	
♃ —— 25.		Noon.	57 8	11 42½		76¾	75		
	5 25 24	4 31 0	15 53	11 21	11 13	76¼	75	6	
	20 20 50	19 24 4½	15 12⅜	10 19	11 45¾	75⅓	75	6	
♀ —— 26.		Noon.	58 44¾	9 55 1/10		77¾	77¼		
	5 23 10	4 24 52	17 54⅗	9 40½	12 7½	77¾	77⅔	6	
	19 59 51	18 58 44	10 11 1/12	8 38	12 46⅕	77	76⅕	6	
♄ —— 27.		Noon.	60 7¼	8 22½		78½	79		
	5 6 45	4 3 36	23 12 1/12	8 11⅓	13 15¼	78	79	6	
	20 11 21	19 5 54½	12 4	7 55	13 46¼	78¾	77½	6	
☉ —— 28.		Noon.	60 20⅞	7 58⅞		78	78⅓		
	6 7 56	4 59 13	11 25 1/12	7 55⅞	14 33½			6	On board the ship at anchor off the N.W. side of Ascension.
	6 10 25	5 1 52	10 18	7 55⅞	14 31⅛	79½	78½	6	
☽ —— 29.		Noon.	60 13⅓	7 56¼	Dip 3′¾	79	79		On shore.
♂ —— 30.		Noon.	60 5¾	7 55⅕		79	80½		On board the ship at anchor off the N. W. side of Ascension.
☿ —— 31.		Noon.	59 56	7 56⅕		79¼	82		
	3 39 31	2 29 59½	42 27⅛	7 55⅞	14 30⅓	79	81¼	6	
	5 5 43	3 56 2½	24 45⅘	7 55⅞	14 32¼	79½	80⅓	6	
	20 25 44½	19 13 26	13 56⅞	7 7	15 8⅛	78	77	6	
♃ June 1.		Noon.	60 44½	6 59½		79	79¼		
	5 0 24½	3 45 18	27 30½	6 58	15 48⅛	79	79	6	
	20 22 0	19 2 5½	11 30⅔	6 45⅙	16 56⅕	79½	77	5	
♀ —— 2.		Noon.	60 52⅚	6 43¼		78¾	78¼		
	5 16 9	3 53 8	25 53⅗	6 41⅓	17 41⅛	78½	78⅓	6	
	20 48 8	19 19 54½	15 35¼	6 29	18 55⅙	78¼	76	6	
♄ —— 3.		Noon.	61 1⅞	6 26⅕		79	78		
	4 22 37	2 50 45½	39 0⅗	6 25	19 48⅕	79	78¼	6	
	20 44 45	19 7 9½	12 52⅞	6 4½	21 10⅓	79¼	77	6	
☉ —— 4.		Noon.	61 20½	6 0¾		79	79¼		
	6 39 7	4 57 41½	11 49⅘	5 57½	22 5⅕	79	79¼	6	
	20 43 1½	18 56 38	10 38⅛	5 43⅔	23 16⅝	79½	78¾	6	
☽ —— 5.		Noon.	61 35⅗	5 39		79½	80		
	4 51 35	3 1 42½	37 13⅙	5 36⅕	24 6¼	80	80	6	
	20 51 16	18 55 9½	10 29¼	5 14½	25 37½	80½	79½	6	
♂ —— 6.		Noon.	61 59¼	5 8⅘			81¾		
	6 3 32	4 3 38⅔	24 12⅕	5 4⅛	26 30¼	80¼	80¾	6	
	21 1 52	18 57 18	11 2⅗	5 1	27 37	80	79⅓	6	
☿ —— 7.		Noon.	62 4⅗	4 57⅗		80	81		
	6 26 11	4 19 12	20 58⅕	4 48⅓	28 11	80	81	6	
	21 17 38½	19 6 2	13 25 1/12	3 59	29 16⅛	80	80	6	
♃ —— 8.		Noon.	63 11¾	3 44⅘		80¾	82¾		
	5 19 13	3 4 34½	37 32⅕	3 45½	30 0¼	81	81¼	10	
	21 18 36	18 56 50	11 26 1/12	3 43⅙	31 43	80⅓	80¼	6	
♀ —— 9.		Noon.	63 8	3 43⅕			82		The Island Ferdinando de Noronha S.W. by W. ½ W.

1775	Time by Watch K.	Apparent Time	Altitude of the ☉'s L. L.	Latitude South	Longitude West by K	Thermom. A	Thermom. B	Force of	Remarks
	H ′ ″	H ′ ″	° ′	° ′	° ′				
♀ June 9	5 9 2	2 43 58	41 38¾	3 53½	32 30¾	81¼	81¾	7	The Spire Rock on Fernando de Noronha S [illegible] W [illegible]
	6 15 57	3 50 32	27 35½	3 52	32 34¾	81½	81¾	6	The [illegible] Rock which is near the middle of the Island S 27 W 4¾ leagues
	21 16 45	18 51 52	10 50¾	2 23	32 23½	80	80	6	
♄ — 10		Noon	64 49	1 57		81¼	82¼		
	7 9 57	4 45 24	16 19½	1 34½	32 16½	81¼		6	
	21 35 5	19 10 30	15 47½	0 35¼	32 12¾	79¼	79¾	6	
☉ — 11		Noon	66 30⅛	0 11¼	Dip 3¼	80¾	81		
				North					
	7 0 12	4 35 47	19 13¾	0 12	32 7¾	80	81	6	
	21 58 45	19 34 58	22 12¾	1 30½	31 54¼	80¼	80	6	
☽ — 12		Noon	68 28	1 50¾	Dip 3¼	81	81		
	6 32 37	4 8 48	26 9	2 10⅛	31 52⅛	81½		6	
♂ — 13	21 51 50	19 28 30	21 33⅛	3 34	31 41⅛	81	81	6	
		Noon	70 24¼	3 49¾		80	81½		
	25 6 45	20 42 50	38 42⅞	4 25½	31 43¼	78	79½	6	
☿ — 14	7 8 25	4 44 50½	18 55	4 36	31 36½	80		6	
♃ — 15	23 53 13½	21 31 41	49 56	5 32	31 1	78	79	4	Very cloudy
♀ — 16	23 51 54	21 31 45	50 14⅛	6 8	30 33¾	79	78½	6	Ditto
		Noon	72 35¾	6 9			81½		
♄ — 17	6 21 13	4 1 10	29 32	6 10	30 30½	81½	80¾	6	
		Noon	72 37¼	6 13		79	79		
	7 36 12	5 16 34	12 16⅞	6 13	30 17½	80¼	79¾	6	
☉ — 18	23 7 43	20 47 18	40 26	6 8	30 25⅞	79½	77¾	6	
		Noon	72 35	6 12¼		79½	78		
	6 21 46	4 0 45	29 31¾	6 12	30 31⅞	81½	80¾	6	
☽ — 19	21 23 40	18 48 32	16 59	7 0	30 27	80½	79	6	
		Noon	73 29⅛	7 8½		82½	82		
	7 1 32	4 39 38	21 6	7 13	30 38½	81	79½	6	
	21 17 8	18 53 46	15 17¼	7 54	30 56¾	80¼		6	
♂ — 20	21 32 47	19 9 19	18 51¾	7 54	30 58⅛	81¼	80¾	7	
		Noon	74 31⅛	8 10⅛		81¼	81		
	7 2 37	4 36 32	22 16½	8 25½	31 34¾	81½	80¾	6	
☿ — 21	21 25 46	18 55 20	16 8½	9 10⅛	32 36½	80	79½	10	
		Noon	75 49	9 28¾		81¼	83		
	6 15 32	3 42 13	35 10½	9 42⅛	33 14¼	80⅛	81	5	
♃ — 22	21 36 1	19 0 3	17 48½	10 49½	33 62½	79	80	6	
		Noon	77 32⅞	11 12		81	84½		
	6 29 48	3 51 28	33 42	11 28½	34 25⅞	80	80	6	
♀ — 23	21 59 46	19 18 4	22 32	12 35½	35 11⅛	78	78½	6	Very cloudy
		Noon	79 14⅞	12 63½		79¾	80		
	6 50 55	4 7 10	30 40½	13 4½	35 40⅛	79	80	6	Very cloudy
♄ — 24	21 28 33	18 42 4	14 56	14 14½	36 17¼	77	76¾	6	Cloudy.
		Noon	81 0⅞	14 37		78	78		

1775.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude N. ° ′	Longitude West by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♄ June 24.	6 50 54	4 2 53½	32 11⅔	14 53	36 35¼	77½	78	6	
☉ —— 25.		Noon.	82 44 1/12	16 20¼		77½	82¼		
	6 29 29	3 36 38½	38 45⅓	16 35	37 43⅞	76½	79	6	Cloudy.
	22 35 7	19 38 46	28 53⅚	17 39⅙	38 31¼	77½	77½	6	
☽ —— 26.		Noon.	84 19⅓	17 53⅔		77⅔	78¼		
	6 38 27	3 40 28	38 18⅞	18 7⅔	38 54½	76	78½	6	
	21 23 49	18 23 51	12 35½	19 9½	39 19¼	75¼	75½	6	
♂ —— 27.		Noon.	85 59¼	19 31⅞			78		
	6 55 1	3 53 38½	35 45⅝	19 50⅓	39 38½	76½	77	6	
	21 15 35	18 13 5½	10 50	20 51	39 51½	77	75	6	
☿ —— 28.		Noon.	87 51⅗	21 20 9/10		78½	78		
	7 11 2	4 7 9½	33 10⅔	21 41½	40 9¼	78½	80	4	Cloudy.
	2 46 39½	23 41 7	85 28	23 8½	40 29⅙	81	78½	6	
♃ —— 29.		Noon.	89 43⅔	23 10 1/12		78½	81		
	3 25 7	0 19 44	85 16⅝	23 11½	40 26⅛	81	78½	6	
	22 22 43	19 14 43	25 28	24 47	41 1½	75½	76½	6	
♀ —— 30.		Noon.	87 50½	25 9⅞	Dip 4½	77	80½		
	7 6 38½	3 57 49½	36 5	25 30	41 11	77	80	6	
	21 13 7	18 2 42½	10 35⅙	26 34⅚	41 31	75	74¼	6	
♄ July 1.		Noon.	85 52	27 4⅔	Dip 4½	76	76½		
	6 6 19	2 55 29½	50 8 1/10	27 21⅔	41 35¾	75½	76	10	
	7 17 54	4 7 9½	34 21⅙	27 26⅔	41 33¼	75¼	76	6	
	23 56 22	20 44 18	45 43½	28 26⅚	41 49¼	75	74¾	6	
☉ —— 2.		Noon.	84 10¼	28 42	Dip 4½	76¼	75		
	5 38 29	2 26 20	56 33 1/10	28 53	41 48⅞	77	75¾	10	
	7 24 9	4 12 12	33 29⅓	28 58	41 45¾	77¼	75⅓	6	
	21 55 57	18 44 51	20 17	29 43	41 29¼	74¼	74	6	
☽ —— 3.		Noon.	82 47⅞	29 59½		76¼	74		
	6 1 4	2 50 48	51 11⅓	30 8	41 14⅝	76¼	75	6	
	21 17 8½	18 7 41½	12 57 1/12	30 52⅔	40 58½	74	73½	3	Cloudy.
♂ —— 4.		Noon.	81 24¼	31 18⅙		76	75		
	6 30 28	3 21 22½	44 36⅓	31 25	40 50¼			6	
	23 13 39	20 5 13½	37 35⅓	32 22⅚	40 36½	74	73	6	
☿ —— 5.		Noon.	80 5⅛	32 31½		76	75		
	8 28 27	5 20 22½	19 52¼	32 38½	40 29½	77	76	6	
	23 57 56	20 49 50½	46 55⅓	33 5	40 25⅛	75¼	74½	6	
♃ —— 6.		Noon.	79 22⅞	33 8⅙		76½	76½		
	5 49 18	2 41 32	52 53⅓	33 10	40 19⅛	78¼	76¼	6	
	6 15 0	3 7 16	47 31⅔	33 10	40 18⅞	78¾	76¾	6	
	22 52 7	19 44 27	33 16	33 25⅔	40 13¼	76	75	6	
♀ —— 7.		Noon.	78 52⅙	33 32¼		78	77¼		
	7 49 39	4 42 33	27 42 9/10	33 38⅓	40 3¼	79½		6	
	23 51 15	20 43 49½	45 33⅓	34 1½	40 4¼	74¼	74	6	
♄ —— 8.	7 9 19	4 1 18½	36 13¼	34 14½	40 11⅛	77	79¼	10	
	23 10 34½	20 1 44	36 49½	34 55	40 20	75	75¾	6	
☉ —— 9.		Noon.	77 8½	35 3		76¼	76¾		

1775	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉'s L L ° ′	Latitude North ° ′	Longitude West by K ° ′	Thermom A	Thermom B	No of Obs	Remarks
☉ July 9	7 48 17	4 40 38	28 14⅗	35 10	40 0¼	77½	75¼	5	
	23 20 18	20 14 25½	39 25⅒	35 34½	39 30	75	75½	6	
☽ —— 10		Noon	76 18¼	35 45½					
	7 49 1½	4 45 48	27 16	35 58	38 48⅕	77½	77	6	
	22 45 52	19 49 56	34 26¼	36 44	36 55½	76	76½	6	
♂ —— 11		Noon	75 0¼	36 55$\frac{3}{10}$		75¼	76		
	6 57 48	4 6 8	35 11⅗	37 6	35 49⅞	76	76	6	
	22 53 33	20 10 2	38 23½	37 58	33 44½	74	76	6	
☿ —— 12		Noon	73 35⅞	38 12½		76½	75¼		
	6 28 4½	3 49 24	38 28¼	38 13	32 29¾	74½	75	6	
	23 53 18	21 22 22	52 17¾	38 28½	30 29⅞	73	74	6	Very hazy
♃ —— 13		Noon	73 9¼	38 29½		75	74½		
	6 44 32	4 17 5	32 29½	38 32	29 36⅗	75½	74	6	The island Fayal, East

In the morning I took the Watch and Astronomical Quadrant on shore, at the Villa de Horta, on the island Fayal, and noted the times of equal altitudes of the Sun by the Watch every day, from the 14th to the 18th inclusive from whence it appeared that the Watch was then gaining 13″,528 a day on mean time, or 0″,324 more than it was gaining at the Cape of Good Hope; and that it was 2h 20′ 37″¼ to fast for mean time at Fayal on July 18th at noon The rate of its going, found at this place, being so little different from that which was found at the Cape, I continued to compute the longitude of the ship on the same suppositions as I had done before

1775	Time by Watch K	Apparent Time	Altitude of the ☉'s L L	Latitude North	Longitude West by K	Thermom A	Thermom B	No of Obs	Remarks
♂ —— 18	21 48 53	19 23 28	28 42½	38 46½	28 39½	73	72½	6	Cloudy The N Point of St George S 47° W 2 miles off
☿ —— 19	17 19 3	4 58 39	24 25¼	39 2½	27 22½	74	74	8	Very cloudy The E end of Tercera S 13° W 5 leagues
	21 10 42	18 54 38½	23 5⅓	39 9	26 15	71⅓	72	6	
	1 24 35		68 18⅘	39 13½	☉ S 8° W at 1st Obs Ship's course E ¼N 2 miles an hour				
♃ —— 20	2 30 15		70 58				76	5	
	3 26 28		65 43½				75¼	5	
	7 24 2	5 9 58½	22 10½	39 15½	25 42⅞	72½	77¼	6	
	21 35 40	19 25 34	28 56¼	39 24½	24 41¼	72½	70	6	
♀ —— 21	5 43 44	3 36 8	40 8½	39 26½	24 2⅙	72	74	5	
	22 46 12	20 41 56	43 29⅓	39 35½	23 9⅗	70	71¼	5	Very cloudy
♄ —— 22		Noon	70 28½	39 37½		71¼	74½		
	5 3 46	3 1 2½	46 39⅗	39 45½	22 45¼	71¼	73¼	6	
	21 25 11	19 29 13	29 27½	40 32½	21 1	70	68	10	
	23 18 1	21 22 38	50 37½	40 39	20 52½	70¼	67½	10	
☉ —— 23		Noon	69 5⅗	40 48¼		71½	69¼		
	6 6 33	4 13 48	32 38½	41 4⅓	20 11⅗	72½	72	6	
	21 39 37	19 52 12	33 39⅒	41 52	18 49¼	67½	68	6	

1775.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude N. ° ′	Longitude West by K ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☽ July 24.		Noon.	67 35¼	42 6¼		70	69½		A bad horizon.
	5 30 14	3 45 8	37 45⅛	42 18	18 13⅓	70	70	6	
	21 27 36	19 46 40	32 25⅞	43 22	17 8⅙	68	65½	6	
♂ —— 25.		Noon.	65 48¼	43 40½		69½	67		
	5 33 17	3 55 19	35 34⅛	43 57½	16 22¼	70	68	6	
	22 16 35	20 44 48	42 11⅓	45 17	14 47⅛	64¼	63½	6	
☿ —— 26.		Noon.	63 40⅛	45 36		66	64		
	5 2 37	3 34 29½	38 44⅓	45 53	13 51⅕	67	63⅓	6	
	21 19 24	19 59 4	33 55$\frac{1}{11}$	47 1	11 52⅕	64	62½	6	
♃ —— 27.		Noon.	61 46⅛	47 16½		67	64½		
	4 49 49	3 2 54	38 28½	47 27	11 0½	69½		6	
	21 41 39	20 30 56	38 50¼	47 59⅗	9 26½	65	62½	6	
♀ —— 28.		Noon.	60 39⅜	48 9⅕		67	64½		
	5 50 58½	4 44 50	26 16⅖	48 24	8 15½	69½	65	6	
	21 2 48	20 6 27	34 26⅔	49 17⅙	5 46½	65½	62½	6	
♄ —— 29.		Noon.	58 57⅞	49 37½		67½	62⅔		
	4 9 55	3 18 4	39 45	49 54⅘	4 38⅜	69	64	6	

A little before noon on the 30th we anchored at Spithead, and ſoon after I carried the Watch on ſhore, in company with Captain Cook and Lieutenant Cooper, to the Obſervatory belonging to the Royal Academy at Portſmouth, where I tranſcribed the following Obſervations of the Sun's tranſit over the meridian from their books, viz.

	First Wire. ′ ″	Second Wire. ′ ″	Middle Wire. H ′ ″	Fourth Wire. ′ ″	Fifth Wire. ′ ″	
♂ July 25.		15 8¼	8 16 9½			☉'s 1ſt Limb.
			18 23	19 23½		☉'s 2d Limb.
☿ —— 26.	18 5	19 5½	8 20 5½			☉'s 1ſt Limb.
			22 19½	23 19½	24 19½	☉'s 2d Limb.
♃ —— 27.		23 0	8 24 0½			☉'s 1ſt Limb.
			16 14½	27 14½		☉'s 2d Limb.

We then compared the Watch with the Clock as follows:

Time by the Clock. H ′ ″	Time by Watch K. H ′ ″	
10 5 0	2 6 56½	By W. Wales.
6 0	7 56	By Mr. Witchell.
7 0	8 55½	By Capt. Cook.

Mr Witchell, Head Master of the Royal Academy at Portsmouth, has since favoured me with the following Observations

1775	First Wire ″	Second Wire ″	Middle Wire H ′ ″	Fourth Wire ′ ″	Fifth Wire	
☽ July 31	37 37¼	38 37½	8 39 37¼			☉'s 1st Limb
			41 50¼	42 50¼	43 50¼	☉'s 2d Limb
♂ Aug 1	41 31	42 30¼	8 43 30½			☉'s 1st Limb
			45 43¼	46 42¼	47 42¼	☉'s 2d Limb

Hence it appears, that the Watch was too fast for mean time, at Portsmouth, by 0h. 33′ 1″¼, and of course it gave the longitude of Portsmouth 1° 2′ 56″ West of Greenwich, according to the mode of reckoning I have followed since leaving the Cape of Good Hope The true longitude of the Observatory at Portsmouth is 1° 6′ 15″ West, and therefore the error of the Watch in our run from the Cape is 0° 16′ 41″½ If we suppose it to have gone all the voyage at the rate it went at Greenwich before its setting out, it will place Portsmouth 316° 10′ 18″, East of Drake's Island, instead of 360°+3° 9′ 52″½, consequently the total error of the Watch in the whole voyage or three years and twenty days, is 46° 59′ 34″ Moreover, seeing that the Watch was too fast for mean time as above if we allow it to have gained 13″,528 each day since leaving Fayal, as it was found to do there, the difference of longitude between that place and Portsmouth will be 27° 34′ 35″½; that is, 28° 41′ 5″½ between Fayal and Greenwich; Fayal being so much to the West

On Monday I brought the Watch up to London with me in a post chaise; and on Tuesday, August 1, carried it down to Greenwich in a coach, and delivered it to the Rev Mr Maskelyne, his Majesty's Astronomer Royal On comparing it with the Transit Clock there, we found that the Watch shewed 0 h 56′, when the Transit Clock shewed 9 h 3′ 24″ The Sun's transit that day was at 8 h 42′ 18″ 36 from whence it appears that the mean time of comparing the Watch was 0 h 26′ 55″,6, and of course that the Watch was too fast for mean time at Greenwich by 0 h 29′ 4″,4; and therefore allowing its Fayal rate, it makes the difference of Longitude between Portsmouth and Greenwich 4′ 23″ 85 in time, or 1° 5′ 51″

The Rev Mr Maskelyne found that this Watch lost at the rate of 0″½ a day on mean time between March 24th and April 25th 1772, before it went on the voyage; and that it gained at the rate of 13″,0 a day from August 1st to September 1st 1775, after its return.

From the preceding account it appears to what an amazing degree of accuracy the ingenious Inventor of this Watch had brought this branch of mechanics so long ago as the year 1762, or 3; and at the same time what room is yet left for future improvements by other Artists but let no man boast that he has excelled him, until his machines have undergone as rigorous a trial as this has done

Comparisons of the Time-keepers with each other.

Comparisons of Mr. Arnold's Watches, Nos. 1 and 2 with each other.

1772.	Time by Watch No. 1. H ′ ″	Time by Watch No. 2. H ′ ″
♀ July 10.	Both Watches were set 12″ too slow for mean time.	
♄ —— 11.	No. 2 stopped.	
☉ —— 12.	0 30 0	1 23 45
☽ —— 13.	0 29 4	1 23 0
♂ —— 14.	0 43 0	1 37 0½
☿ —— 15.	0 34 48	1 29 0
♃ —— 16.	0 32 43	1 27 0
♀ —— 17.	1 1 39½	1 56 0
♄ —— 18.	0 55 37½	1 50 0
☉ —— 19.	0 56 43½	1 51 0
☽ —— 20.	0 51 48½	1 46 0
♂ —— 21.	1 10 47½	2 5 0
☿ —— 22.	1 14 51½	2 9 0
♃ —— 23.	1 14 53	2 9 0
♀ —— 24.	1 14 51	2 9 0
♄ —— 25.	1 17 50	2 12 0
☉ —— 26.	1 21 48	2 16 0
☽ —— 27.	1 9 47	2 4 0
♂ —— 28.	1 57 46½	2 52 0
☿ —— 29.	0 47 46½	1 42 0
♃ —— 30.	11 26 0	0 20 16
♀ —— 31.	0 59 0	1 53 12½
♄ Aug. 1.	0 37 0	1 31 7
☉ —— 2.	1 36 0	2 29 59½
☽ —— 3.	1 29 0	2 22 55½
♂ —— 4.	1 34 0	2 27 55½
☿ —— 5	1 31 0	2 24 54½
♃ —— 6.	1 53 0	2 46 55
♀ —— 7.	1 32 0	2 25 55
♄ —— 8.	1 31 0	2 24 56
☉ —— 9.	1 44 0	2 37 50
☽ —— 10.	1 47 0	2 40 48
♂ —— 11.	2 9 0	3 2 48½
☿ —— 12.	1 41 0	2 34 46½
♃ —— 13.	1 44 0	2 37 37½
♀ —— 14.	2 8 0	3 1 30
♄ —— 15.	2 5 0	2 58 29½
☉ —— 16.	2 5 0	2 58 29
☽ —— 17.	2 54 0	3 47 34
♂ Aug. 18.	1 46 0	2 39 34
☿ —— 19.	1 53 0	2 46 40
♃ —— 20.	1 24 0	2 17 49
♀ —— 21.	2 7 0	3 0 54½
♄ —— 22.	1 33 0	2 27 4
☉ —— 23.	1 10 0	2 4 14½
☽ —— 24.	1 16 0	2 10 22
♂ —— 25.	1 8 0	2 2 25
☿ —— 26.	0 59 0	1 53 31½
♃ —— 27.	1 0 0	1 54 41
♀ —— 28.	1 6 0	2 0 49½
♄ —— 29.	0 36 0	1 30 58½
☉ —— 30.	0 42 0	1 37 10
☽ —— 31.	0 50 0	1 45 19
♂ Sept. 1.	0 21 0	1 16 20
☿ —— 2.	0 45 0	1 40 26
♃ —— 3.	0 53 0	1 48 29
♀ —— 4.	0 31 0	1 26 34
♄ —— 5.	0 37 0	1 32 50½
☉ —— 6.	0 38 0	1 34 13
☽ —— 7.	0 27 0	1 23 29½
♂ —— 8.	0 28 0	1 24 36
☿ —— 9.	1 1 0	1 57 42
♃ —— 10.	0 43 0	1 39 49½
♀ —— 11.	0 53 0	1 49 51
♄ —— 12.	1 10 0	2 7 2½
☉ —— 13.	0 59 0	1 55 57
☽ —— 14.	0 43 0	1 40 22½
♂ —— 15.	1 21 0	2 18 31½
☿ —— 16.	1 0 0	1 57 45½
♃ —— 17.	1 9 0	2 7 4
♀ —— 18.	1 7 0	2 5 5½
♄ —— 19.	0 56 0	1 54 16
☉ —— 20.	1 30 0	2 28 17
☽ —— 21.	1 26 0	2 24 17
♂ —— 22.	1 8 0	2 6 19
☿ —— 23.	1 27 0	2 25 55½
♃ —— 24.	1 11 0	2 9 35½
♀ —— 25.	1 34 0	2 31 21
♄ —— 26.	1 23 0	2 20 27

Comparisons of Mr Arnold's Watches Nos 1 and 2 with each other

1772	Time by Watch No 1	Time by Watch No 2	1772	Time by Watch No 1	Time by Watch No 2
	H	H		H	H
☉ Sept 27	0 12 0	1 7 45	♃ Oct 15	23 41 0	16 22 45
☽ —— 28	1 9 0	2 4 55	♀ —— 16	23 58 0	16 40 10
♂ —— 29	1 17 0	2 13 1	♄ —— 17	23 13 0	15 31 12
☿ —— 30	1 4 0	2 0 14	☉ —— 18	23 12 0	15 16 26
♃ Oct 1	1 1 0	1 57 21¼	☽ —— 19	23 2 0	14 42 27
♀ —— 2	0 41 0	1 36 46¼	♂ —— 20	23 6 0	13 43 41½
♄ —— 3	0 41 0	1 36 33	☿ —— 21	22 58 0	13 36 10
☉ —— 4	0 42 0	1 37 22	♃ —— 22	23 10 0	9 5 5
☽ —— 5	0 22 0	0 29 34	♀ —— 23	23 6 0	4 48 29
♂ —— 6	0 27 0	23 32 55	♄ —— 24	22 52 0	4 20 11
☿ —— 7	0 25 0	22 17 31	☉ —— 25	22 38 0	4 5 39
♃ —— 8	0 14 0	21 47 5	☽ —— 26	22 28 0	3 15 5
♀ —— 9	0 47 0	22 17 1	♂ —— 27	22 31 0	3 15 5[illegible]½
♄ —— 10	0 14 0	21 47 5	☿ —— 28	22 26 0	2 35 11½
☉ —— 11	0 7 0	20 54 3	♃ —— 29	22 7 0	1 16 37½
☽ —— 12	0 11 0	20 22 28	♀ —— 30	22 [illegible]6 0	1 36 9
♂ —— 13	23 55 0	19 57 0	♄ —— 31	22 24 0	1 31 45
☿ —— 14	23 41 0	17 18 2	☉ Nov 1	22 26 0	1 37 10

Comparisons of the Watch K, with Mr Arnold's No 3

1772	Time by A, No 3	Time by Watch K	1772	Time by A, No 3	Time by Watch K
	H	H		H ′	H ″
♀ July 10	The Watch K was set 0″ 7 too fast, and the Watch A, N 3, too slow by 10″¼ for mean time		♃ July 23	0 31 0	0 39 57¼
			♀ —— 24	0 42 0	0 51 44¼
			♄ —— 25	0 52 0	1 2 33¼
			☉ —— 26	0 51 0	1 2 22
♄ —— 11	0 7 16	0 8 0	☽ —— 27	0 46 0	0 58 16¼
☉ —— 12	0 57 36	0 59 0	♂ —— 28	1 3 0	1 16 10
☽ —— 13	0 5 2¼	0 7 0	☿ —— 29	1 10 0	1 24 5
♂ —— 14	0 6 21	0 9 0	♃ —— 30	1 59 0	2 14 2
☿ —— 15	0 20 45	0 24 0	♀ —— 31	11 25 0	11 40 54
♃ —— 16	0 31 3¼	0 35 0	☉ Aug 2	0 47 0	1 5 1
♀ —— 17	0 22 25¼	0 27 0	☽ —— 3	0 59 0	1 18 14¼
♄ —— 18	0 18 44¼	0 24 0	♂ —— 4	0 54 0	1 14 32¼
☉ —— 19	0 34 3	0 40 0	☿ —— 5	1 22 0	1 43 53¼
☽ —— 20	0 28 0	0 34 10	♃ —— 6	1 6 0	1 29 13¼
♂ —— 21	0 28 0	0 35 24½	♀ —— 7	0 54 0	1 18 35
☿ —— 22	0 30 0	0 38 11½	♄ —— 8	0 58 0	1 24 0¼

Comparisons of the Watch K. with Mr Arnold's No. 3.

1772.	Time by A, No. 3. H ′ ″	Time by Watch K. H ′ ″	1772.	Time by A, No. 3. H ′ ″	Time by Watch K. H ′ ″
☉ Aug. 9.	0 56 0	1 23 24¼	♂ Sept. 22.	23 45 0	1 14 23
☽ — 10.	0 58 0	1 26 50½	☿ — 23.	23 49 0	1 19 49
♂ — 11.	1 1 0	1 31 15	♃ — 24.	23 49 0	1 21 16
☿ — 12.	1 4 0	1 35 41	♀ — 25.	23 56 0	1 29 44
♃ — 13.	2 2 0	2 35 13	♄ — 26.	23 48 0	1 23 10
♀ — 14.	1 2 0	1 36 38½	☉ — 27.	23 41 0	1 17 25½
♄ — 15.	1 15 0	1 51 7½	☽ — 28.	23 46 0	1 23 40½
☉ — 16.	1 0 0	1 37 35	♂ — 29.	23 31 0	1 9 54½
☽ — 17.	0 47 0	1 26 3½	☿ — 30.	23 32 0	1 12 21
♂ — 18.	0 43 0	1 23 29	♃ Oct. 1.	23 17 0	0 58 50
☿ — 19.	1 11 0	1 52 49½	♀ — 2.	23 18 0	1 1 1
♃ — 20.	1 23 0	2 6 6	♄ — 3.	23 1 0	0 45 22½
♀ — 21.	0 35 0	1 19 18¼	☉ — 4.	22 50 0	0 35 41
♄ — 22.	0 22 0	1 7 35½	☽ — 5.	22 41 0	0 27 55
☉ — 23.	0 18 0	1 4 50¼	♂ — 6.	22 44 0	0 32 9½
☽ — 24.	0 8 0	0 56 8¼	☿ — 7.	22 45 0	0 34 20½
♂ — 25.	0 7 0	0 56 26½	♃ — 8.	22 43 0	0 33 40
☿ — 26.	23 55 0	0 45 43	♀ — 9.	22 43 0	0 35 10½
♃ — 27.	23 54 0	0 46 0½	♄ — 10.	22 26 0	0 19 33
♀ — 28.	23 45 0	0 38 16	☉ — 11.	22 29 0	0 23 44½
♄ — 29.	23 37 0	0 31 36	☽ — 12.	22 18 0	0 13 53
☉ — 30.	23 37 0	0 33 0½	♂ — 13.	22 6 0	0 3 6
☽ — 31.	23 20 0	0 17 20½	☿ — 14.	22 2 0	0 0 20
♂ Sept. 1.	23 22 0	0 20 48	♃ — 15.	21 53 0	23 52 34¼
☿ — 2.	23 21 0	0 21 5½	♀ — 16.	21 37 0	23 37 48
♃ — 3.	23 27 0	0 28 19¼	♄ — 17.	21 21 0	23 22 59¼
♀ — 4.	23 28 0	0 30 28	☉ — 18.	21 21 0	23 24 7¼
♄ — 5.	23 37 0	0 40 34	☽ — 19.	21 4 0	23 8 15½
☉ — 6.	23 26 0	0 30 48¼	♂ — 20.	21 4 0	23 9 27½
☽ — 7.	23 18 0	0 24 7½	☿ — 21.	21 4 0	23 10 38
♂ — 8.	23 30 0	0 37 46	♃ — 22.	21 0 0	23 7 47
☿ — 9.	23 21 0	0 30 24	♀ — 23.	20 58 0	23 7 0
♃ — 10.	23 23 0	0 33 49¼	♄ — 24.	20 42 0	22 52 23½
♀ — 11.	23 36 0	0 48 28½	☉ — 25.	20 32 0	22 43 47
♄ — 12.	23 26 0	0 40 13¼	☽ — 26.	20 29 0	22 42 9½
☉ — 13.	23 35 0	0 50 58½	♂ — 27.	20 24 0	22 38 29½
☽ — 14.	23 36 0	0 53 29½	☿ — 28.	20 20 0	22 35 56½
♂ — 15.	23 42 0	1 1 20	♃ — 29.	20 19 0	22 36 26
☿ — 16.	23 48 0	1 9 9	♀ — 30.	20 9 0	22 28 2½
♃ — 17.	23 40 0	1 2 40	♄ — 31.	20 13 0	22 33 28½
♀ — 18.	23 53 0	1 17 4½	☉ Nov. 1.	20 20 0	22 41 59
♄ — 19.	23 38 0	1 3 34½	☽ — 2.	19 49 0	22 12 21½
☉ — 20.	23 42 0	1 9 12½	☽ — 16.	20 38 0	23 23 5¾
☽ — 21.	23 48 0	1 16 21½	☿ — 18.	22 36 0	22 35 1½

Comparisons of the Watches with each other

1772	Time by A, N 3	Time by Watch K	1773	Time by A, N 3	Time by Watch K
	H	H		H	H ″
♃ Nov 19	23 12 0	23 12 32½	♀ Jan 1	22 20 0	23 17 18¼
♀ —— 20	23 12 0	23 13 55½	♄ —— 2	22 18 0	23 16 52
♄ —— 21	21 3 0	21 5 55¼	☉ —— 3	22 34 0	23 34 28
☉ —— 22	22 18 0	22 22 11½	☽ —— 4	22 21 0	23 23 0
☽ —— 23	22 25 0	22 30 20	♂ —— 5	22 0 0	23 3 27¼
♂ —— 24	22 27 0	22 33 29¼	☿ —— 6	21 46 0	22 50 53
☿ —— 25	22 33 0	22 40 42½	♃ —— 7	21 7 0	22 13 21¼
♃ —— 26	22 46 0	22 54 55½	♀ —— 8	21 4 0	22 11 51¼
♀ —— 27	22 31 0	22 41 6½	♄ —— 9	21 0 0	22 9 26
♄ —— 28	22 31 0	22 42 18	☉ —— 10	20 50 0	22 1 2¼
☉ —— 29	22 46 0	22 58 29	☽ —— 11	20 31 0	21 43 36¼
☽ —— 30	23 14 0	23 27 48¼	♂ —— 12	20 19 0	21 33 12¼
♂ Dec 1	22 53 0	23 8 2¼	☿ —— 13	20 21 0	21 36 50
☿ —— 2	22 29 0	22 45 16¼	♃ —— 14	20 16 0	21 33 34¼
♃ —— 3	22 27 0	22 44 31	♀ —— 15	20 11 0	21 30 18
♀ —— 4	22 15 0	22 33 44	♄ —— 16	20 10 0	21 31 2
♄ —— 5	22 21 0	22 40 56½	☉ —— 17	20 14 0	21 36 42¼
☉ —— 6	22 33 0	22 54 0¼	☽ —— 18	20 11 0	21 35 16¼
☽ —— 7	22 26 0	22 48 8½	♂ —— 19	20 18 0	21 43 51¼
♂ —— 8	22 42 0	23 5 37	☿ —— 20	20 8 0	21 35 25
☿ —— 9	22 23 0	22 48 2	♃ —— 21	20 10 0	21 39 0¼
♃ —— 10	22 6 0	22 32 27¼	♀ —— 22	20 0 0	21 30 33
♀ —— 11	22 4 0	22 31 54	♄ —— 23	20 1 0	21 33 8¼
♄ —— 12	22 19 0	22 48 22	☉ —— 24	19 22 0	20 55 34¼
☉ —— 13	22 14 0	22 44 42	☽ —— 25	19 23 0	20 58 12½
☽ —— 14	22 8 0	22 39 57¼	♂ —— 26	19 16 0	20 52 46
♂ —— 15	21 57 0	22 30 15	☿ —— 27	19 14 0	20 52 22¼
☿ —— 16	22 3 0	2– 37 39¼	♃ —— 28	19 24 0	21 4 1
♃ —— 17	21 49 0	22 25 3¼	♀ —— 29	18 58 0	20 39 39¼
♀ —— 18	21 45 0	22 22 27¼	♄ —— 30	19 5 0	20 48 18¼
♄ —— 19	21 40 0	22 18 48¼	☉ —— 31	19 0 0	20 44 58¼
☉ —— 20	21 32 0	22 12 14	☽ Feb 1	18 43 0	20 29 37
☽ —— 21	21 28 0	22 9 38	♂ —— 2	18 35 0	20 23 15¼
♂ —— 22	21 13 0	21 56 1¼	☿ —— 3	18 31 0	20 20 59
☿ —— 23	21 1 0	21 45 24¼	♃ —— 4	18 26 0	20 17 45
♃ —— 24	21 11 0	21 56 47¼	♀ —— 5	18 27 0	20 20 28
♀ —— 25	21 21 0	22 8 12¼	♄ —— 6	18 36 0	20 30 58¼
♄ —— 26	21 24 0	22 12 36	☉ —— 7	18 15 0	20 11 29¼
☉ —— 27	21 37 0	22 27 2	☽ —— 8	18 7 0	20 5 6¼
☽ —— 28	21 47 0	22 38 28¼	♂ —— 9	18 16 0	20 15 51½
♂ —— 29	21 55 0	22 47 56	☿ —— 10	17 55 0	19 56 30½
☿ —— 30	22 0 0	22 54 21¼	♃ —— 11	17 37 0	19 40 7
♃ —— 31	22 8 0	23 3 51	♀ —— 12	17 37 0	19 41 45¼
			♄ —— 13	17 16 0	19 22 23¼

Comparisons of the Watches with each other

1773	Time by A, Nº 3	Time by Watch K	1773	Time by A, Nº 3	Time by Watch K
	H	H ′		H ″	H ′ ″
☉ Feb 14	17 5 0	19 13 0r	♂ March 30	10 25 0	13 44 59
☽ —— 15	17 14 0	19 23 38	☿ —— 31	9 31 0	12 52 34r
♂ —— 16	16 57 0	19 8 16	♃ April 1	10 32 0	13 56 54
☿ —— 17	17 29 0	19 41 57r	♀ —— 2	9 51 0	13 16 22¼
♃ —— 18	16 27 0	18 41 32	♄ —— 3	9 41 0	13 8 12¼
♀ —— 19	15 59 0	18 15 8	☉ —— 4	9 33 0	13 2 6
♄ —— 20	15 52 0	18 9 43r	☽ —— 5	10 16 0	13 47 2¼
☉ —— 21	15 45 0	18 4 23	♂ —— 6	9 35 57¼	13 8 47¼
☽ —— 22	15 29 0	17 50 1¼	☿ —— 7	9 41 13¼	13 15 52r
♂ —— 23	15 31 0	17 53 41¼	♃ —— 8	9 27 33r	13 3 59¼
☿ —— 24	15 19 0	17 43 19r	♀ —— 9	9 33 45¼	13 12 3¼
♃ —— 25	15 21 0	17 47 0¼	♄ —— 10	9 20 7	13 0 13¼
♀ —— 26	15 7 0	17 34 42	☉ —— 11	9 21 18r	13 2 20
♄ —— 27	15 3 0	17 32 21	☽ —— 12	9 31 36¼	13 15 24¼
☉ —— 28	14 38 0	17 8 53	♂ —— 13	9 44 46r	13 30 28¼
☽ March 1	14 28 0	17 0 25¼	☿ —— 14	9 3 17	12 50 43r
♂ —— 2	14 35 0	17 8 57	♃ —— 15	9 34 32¼	13 23 46¼
☿ —— 3	14 26 0	17 1 31¼	♀ —— 16	9 12 56	13 3 57r
♃ —— 4	14 4 0	16 41 9¼	♄ —— 17	9 2 17	12 55 12¼
♀ —— 5	13 55 0	16 33 49	☉ —— 18	9 25 33¼	13 20 12r
♄ —— 6	13 39 0	16 19 32r	☽ —— 19	8 53 9	12 49 31r
☉ —— 7	13 25 0	16 7 13r	♂ —— 20	9 19 18	13 17 34
☽ —— 8	13 22 0	16 5 57	☿ —— 21	9 0 49¼	13 0 42r
♂ —— 9	13 19 0	16 4 35	♃ —— 22	9 2 0	13 3 37
☿ —— 10	12 54 0	15 41 5r	♀ —— 23	9 47 0	12 50 22¼
♃ —— 11	12 51 0	15 39 39	♄ —— 24	8 58 0	13 3 4¼
♀ —— 12	12 36 0	15 26 17	☉ —— 25	8 37 0	12 13 57
♄ —— 13	12 28 0	15 19 56	☽ —— 26	9 58 0	14 6 42r
☉ —— 14	12 17 0	15 10 35r	♂ —— 27	8 45 0	12 55 20r
☽ —— 15	11 57 0	14 52 10¼	☿ —— 28	10 5 0	14 17 11¼
♂ —— 16	11 40 0	14 36 42r	♃ —— 29	8 57 0	13 10 54
☿ —— 17	11 40 0	14 38 17¼	♀ —— 30	8 39 0	12 54 34¼
♃ —— 18	11 14 0	14 13 54	♄ May 1	10 48 0	15 5 29r
♀ —— 19	11 11 0	14 12 29	☉ —— 2	8 26 0	12 45 13¼
♄ —— 20	10 56 0	13 59 4	☽ —— 3	5 15 0	9 35 53¼
☉ —— 21	10 42 0	13 46 38	♂ —— 4	6 52 0	11 14 12r
☽ —— 22	10 35 0	13 41 19r	☿ —— 5	8 18 0	12 42 22
♂ —— 23	10 21 0	13 29 4	♃ —— 6	8 46 0	13 12 6¼
☿ —— 24	10 0 0	13 9 37¼	♀ —— 7	8 23 0	12 50 47¼
♃ —— 25	10 9 0	13 20 21¼	♄ —— 8	8 27 0	12 56 23r
♀ —— 26	10 54 0	14 7 1	☉ —— 9	8 38 0	13 8 59r
♄ —— 27	10 30 0	13 44 42	☽ —— 10	8 22 0	12 54 23¼
☉ —— 28	9 39 0	12 55 30¼	♂ —— 11	8 45 0	13 18 55
☽ —— 29	12 14 0	15 23 27¼	☿ —— 12	8 27 0	13 2 24r

Comparisons of the Watches with each other

1773	Time by A, N 3 (H ′ ″)	Time by Watch K (H ′ ″)	1773	Time by A, N 3 (H ′ ″)	Time by Watch K (H ′ ″)
♃ May 13	8 21 0	12 58 0½	☿ May 26	7 21 0	12 26 37¼
♀ —— 14	8 14 0	12 52 39	♃ —— 27	8 18 0	13 19 26¼
♄ —— 15	8 8 0	12 48 12¼	♀ —— 28	7 48 0	12 50 55
☉ —— 16	7 58 0	12 39 57	♄ —— 29	7 30 0	12 34 34
☽ —— 17	7 51 0	12 34 39¼	☉ —— 30	9 57 0	15 3 10¼
♂ —— 18	7 44 0	12 29 15	☽ —— 31	7 19 0	12 26 48¼
☿ —— 19	8 35 0	13 21 56	♂ June 1	9 22 0	14 31 37
♃ —— 20	8 48 0	13 36 37½	☿ —— 2	8 43 0	13 54 6½
♀ —— 21	8 14 0	13 4 26¼	♃ —— 3	7 32 0	12 45 6¼
♄ —— 22	7 15 0	12 7 16¼	♀ —— 4	7 58 0	13 13 6¼
☉ —— 23	7 18 0	12 12 12½	♄ —— 5	8 7 0	13 24 5½
☽ —— 24	8 50 0	13 46 8½	☉ —— 6	7 7 0	12 25 48
♂ —— 25	7 29 0	12 26 55½	☽ —— 7	7 24 0	12 44 43¼

Comparisons of the Watch K with Mr Arnold's Watch No 1

1772	Time by Watch K (H ′ ″)	Time by Watch No 1 (H ′ ″)	1773	Time by Watch K (H ′ ″)	Time by Watch No 1 (H ′ ″)
♂ July 21	5 29 43½	5 29 0	♀ Jan 8	19 52 0	19 7 10
☿ Aug 12	5 6 0	5 4 21	♃ May 20	16 26 28¼	14 38 0
☉ —— 30	6 19 57	6 17 0	♂ June 22	9 8 0	7 0 33¼
☉ Sept 13	22 21 13¼	22 16 0	♂ July 6	7 56 58¼	5 41 0
♄ —— 26	23 1 47	22 54 0	☿ —— 28	7 38 34½	7 5 0
☽ Oct 12	3 0 0	2 49 24½	♃ Aug 5	8 6 51	5 28 0
☽ —— 19	21 30 0	21 17 9¼	♄ —— 14	8 47 11¼	6 0 0
☽ Dec 14	20 41 50½	20 9 0	♃ —— 19	5 36 47	2 45 0
♂ —— 22	19 51 38¼	19 15 0	☽ Oct 4	8 38 52	5 4 0

OBSERVATIONS

OF THE

MOON's Diſtance from the SUN and Fixed STARS,

FOR

Determining the LONGITUDE at SEA;

Made on Board his MAJESTY's Sloop RESOLUTION,

In her late Voyage on Diſcoveries towards the South.

1

1772.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. or ✱. ° ′	Moon's Altitude. ° ′	Distance of the ☽'s L. from ☉'s or ✱. ° ′ ″	Latitude of the Ship N. ° ′	Longitude West of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
♂ July 21.	19 57 50	29 51	45 30 U.	95 21 30	43 41⅔	9 59¼		2	☽ and ☉: Cloudy.
	21 50 4¼	49 47	28 4⅗ U.	94 42 36	43 40	9 40¼		5	☽ and ☉.
	22 18 11¼	54 25⅔	23 7 U.	94 32 50	43 38¼	9 42¼		3	☽ and ☉.
☿ —— 22.	18 59 48	18 44⅔	59 4 U.	84 35 0	42 41⅓	10 9¼		3	☽ and ☉.
	19 5 34	19 46⅓	58 56⅗ U.	84 33 50	42 41⅓	9 57½		3	☽ and ☉.
♃ —— 23.	19 17 13¼	20 25⅘	64 41⅓ U.	73 13 54	40 32	11 24¼	65½	5	☽ and ☉.
♂ Aug. 4.	3 56 50⅓	48 16⅔	44 40½ U.	72 35 40	28 28¾	17 36¼	76½	6	☽ and ☉: Very hazy.
☿ —— 5.	4 12 31	45 4	36 45 U.	85 59 0	27 38¼	18 55½	77½	3	☽ and ☉.
♀ —— 7.	Evening.	9 22⅓	42 22⅔ U.	112 48 35	23 34½	19 50		3	☽ and ☉.
♂ —— 18.	20 10 45¼	16 56$\frac{6}{7}$	47 5 U.	114 1 47	10 50	19 16¼	80	7	☽ and ☉.
♄ —— 22.	20 6 50¼	19 18⅓	77 43⅔ L.	68 32 30	6 57⅓	16 41¼	80	5	☽ and ☉.
☉ —— 23.	20 28 18	25 48	76 11 L.	56 16 45	6 29	14 54	78	1	☽ and ☉.
	20 50 45	31 21½	77 35¾ L.	56 10 52	6 29	14 59	78	4	☽ and ☉.
♀ Sept. 4.	2 36 11	54 42½	29 52⅔ U.	94 26 42	0 49	9 45¼		6	☽ and ☉.
	3 16 46	44 48	38 54	94 42 30	0 49	9 45½		6	☽ and ☉.
♄ —— 5.	3 9 36	46 33	25 17⅓ U.	107 5 24	0 54⅓	9 49¾		7	☽ and ☉.
	4 7 16	31 58	38 9½ U.	107 27 17	0 54⅓	9 47½		4	☽ and ☉.
☉ —— 6.	4 9 58½	30 32½	28 8⅓ U.	119 33 28	0 31	8 9½		8	☽ and ☉: Very Cloudy.
☽ —— 7.	7 33 36½		62 59½ U.	52 47 0 ‡	0 18	7 40¼		4	☽ & Antares.
♂ —— 8.	8 2 16	43 31$\frac{9}{10}$	59 16⅘ U.	65 26 48 ‡	South.	9 14½		5	☽ & Antares.
♄ —— 12.	9 5 0	76 21	28 24⅔ L.	65 14 20 †	5 0	14 52¼		9	☽ & α Aquilæ.
	17 24 18½	69 5¼	28 57½ L.	62 52 8 ‡	5 0	14 14½		5	☽ and Aldebaran.
♃ —— 17.	21 24 13½	36 50⅘	22 56 U.	110 15 42	12 16⅙	17 50		14	☽ and ☉.
♄ —— 19.	20 18 32	19 31¼	51 9⅚ U.	87 26 35	15 24	19 54		6	☽ & ☉: Great mot. & hazy.
	22 1 39½	43 47	35 0⅓ U.	86 56 47	15 33	20 12		6	☽ & ☉: Violent mot.
☽ —— 21.	21 31 20⅓	35 18⅞	54 31¼ U.	62 26 10	18 30	21 12¼		10	☽ and ☉.
♂ —— 29.	8 13 47½	55 11⅓	22 51⅐ L.	73 37 11 ‡				7	☽ & α Aquilæ. Very hazy.
♃ Oct. 1.	3 59 37½	37 17⅘	73 21⅓ U.	64 11 23	27 29	17 45		5	☽ & ☉: Ramsden's Quad.
	4 4 28	35 59⅞	74 31$\frac{1}{12}$ U.	64 13 15	27 29	17 42		6	☽ & ☉: Mr. Smith's ditto.
	4 38 47½	29 1	79 44⅓ U.	64 24 15	27 28½	18 3		5	☽ & ☉: Mr. Clerke's ditto.
		21 26	80 44⅓ U.	64 32 57	27 28½	17 14::		5	☽ & ☉: Dollond's ditto.
♀ —— 2.	3 12 36½	46 3⅔	53 14⅓ U.	76 53 20	27 44⅓	16 39½		6	☽ and ☉.
♄ —— 3.	3 26 30	41 59	45 22 U.	89 29 7½	28 14⅔	15 39		4	☽ and ☉.
☽ —— 5.	4 4 33	30 5¼	33 56 U.	113 29 59	28 54⅓	11 9⅓		14	☽ & ☉: Very uncert.

1772	Time by Watch K H ′ ″	Altitude of the ☉'s L. L. or ✳	Moon's Altitude	Distance of ☽'s L from ☉'s or Star ° ′	Latitude of the Ship S ′	Longitude West of Greenwich ° ″	Thermom	No of Obs	Objects
☽ Oct 5	4 9 41½	29 40$\frac{3}{7}$	35 0$\frac{1}{7}$ U	113 32 48	28 54$\frac{1}{3}$	11 35		5	☽ and ☉ Less uncert
♄ —— 10	7 58 58½	42 53$\frac{1}{10}$	27 29$\frac{1}{6}$ L.	72 24 2 †		6 52¼		9	☽ and α Aquilæ
☉ —— 11.	8 5 50¼	40 52	19 0$\frac{1}{8}$ L	83 14 15 †		5 51		8	☽ and α Aquila
	13 37 19½	35 4	41 0$\frac{1}{7}$ L	43 30 7 †		6 35¼		7	☽ and Aldebaran
						East			
♄ —— 16	18 44 43	23 42$\frac{9}{10}$	18 11 U	118 30 6	35 1	4 7¼	57	5	☽ and ☉ Cloudy
☽ —— 19	15 25 10$\frac{1}{2}$	33 25	31 23$\frac{1}{2}$ L	56 25 30 ‡		8 16¼		3	☽ and Aldebaran
	18 52 13¼	29 34	37 43¼ U	82 36 57	34 41$\frac{3}{8}$	7 47$\frac{1}{2}$		4	☽ and ☉
		44 18$\frac{1}{3}$	29 45$\frac{1}{6}$ U	82 11 54	34 43	7 48¼		6	☽ and ☉
♂ —— 20	18 13 21	21 42$\frac{1}{2}$	43 22¼ U	70 5 7	35 20¼	8 5¼	60$\frac{1}{2}$	6	☽ and ☉
	20 15 37	45 54½	37 20 U	69 22 52	35 26$\frac{1}{2}$	7 56	60$\frac{1}{2}$	6	☽ and ☉
♀ Dec 4.	2 25 56	35 30$\frac{1}{2}$	17 42 U	118 16 30	46 0	17 61		6	☽ and ☉ A great sea
1773									
♄ Jan 2	4 6 48	27 0	15 17$\frac{3}{7}$ U	108 58 49	58 52¼	10 42	31¼	9	☽ and ☉ Dollond's Q
	4 29 13½	24 3	16 41 U	109 10 51	58 52¼	8 41$\frac{1}{2}$	31¼	5	☽ and ☉ C Cook's Q
☿ —— 13	16 38 56	27 34	19 4 U	112 31 34	64 1			1	☽ and ☉
	17 0 24$\frac{1}{3}$	29 55	17 19 U	112 23 9	64 1	39 29¼		6	☽ and ☉
	17 9 5	30 49$\frac{2}{7}$	16 39 U	112 19 44	64 1	39 49		6	☽ and ☉
♃ —— 14	17 50 21¼	35 6	22 6¼ U	98 53 45	63 32¼		35	2	☽ and ☉
	18 8 45	36 55	20 25$\frac{1}{3}$ U	98 46 35	63 32$\frac{1}{6}$	39 58¼	35	6	☽ and ☉ With a 1 lef
	18 30 50	38 59	18 17$\frac{1}{2}$ U	98 32 30	63 32$\frac{1}{6}$	38 35$\frac{3}{7}$	35	6	☽ and ☉ Without
♀ —— 27	23 48 11¼	37 15$\frac{4}{5}$	31 45 U	53 34 6	56 15	52 50	36	5	☽ and ☉ Dollond's Q
	23 57 47¼	35 59$\frac{1}{3}$	31 39 U	53 40 45	56 14¼	51 7¼	36	3	☽ & ☉
	0 23 52	32 48$\frac{3}{5}$	31 21 U	53 49 39	56 13$\frac{1}{6}$	50 50	36	5	☽ & ☉
♃ Feb 11	14 26 10	20 47	30 36 U	118 28 57	52 28$\frac{1}{6}$	70 30$\frac{1}{6}$		5	☽ & ☉
	15 18 8	28 42$\frac{1}{5}$	23 19 U	118 0 55	52 31$\frac{1}{7}$	70 7		5	☽ & ☉
	15 39 46	31 39$\frac{3}{5}$	20 29 U	117 50 57	52 32$\frac{1}{3}$	70 12$\frac{7}{8}$		5	☽ and ☉ Dollond's
♀ —— 12	13 45 44	15 44$\frac{4}{5}$	42 33$\frac{1}{3}$ U	105 20 24	53 34	72 24	34	5	☽ and ☉ Ditto
	14 22 51	21 15	38 57 U	105 6 48	53 37$\frac{1}{6}$	73 10¼	34	5	☽ and ☉ Mr Clerk's Q
		34 37$\frac{7}{8}$	27 4¼ U	104 22 34	53 43$\frac{1}{6}$	72 40	35	4	☽ & ☉
		36 19	25 10$\frac{5}{8}$ U	104 15 43	53 43$\frac{1}{6}$	72 29	35	3	☽ & ☉

1773.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. or ✱. ° ″	Moon's Altitude. ° ′	Distance of the Moon's L. from Sun or Star. ° ′ ″	Latitude of the Ship S. ° ″	Longitude West of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
☿ Feb. 17.	13 43 18	19 36	43 17¼ L.	40 52 8	57 53⅜	83 1	32	4	☽ and ☉.
	13 59 51½	21 49	44 31 L.	40 45 49	57 53⅝	83 9½	32	2	☽ and ☉.
☉ March 7.	2 6 9	20 27	10 6¼ L.	37 31 57 ‡		121 51½		3	☽ and Procyon.
♄ —— 13.	13 47 21	32 23⅓	11 8⅖ U.	109 53 40 ‡		136 55¼		5	☽ and ☉.
	14 3 8	33 2⅖	9 14⅗ U.	109 43 40 ‡		136 46½		5	☽ and ☉.
☉ May 16.	8 19 47	8 9⅘	45 33⅘ L.	50 49 20	40 25⅔	173 25½	51½	5	☽ and ☉.
	9 50 45	20 54⅞	44 54 L.	50 24 26	40 29⅛	173 3⅓	51½	5	☽ and σ.
♂ June 8.	22 29 7	70 9⅙ T.	19 54⅖ L.	59 32 8 †	42 21¼	175 30	51½	7	☽ and Antares.
☿ —— 9.	9 52 52½	15 43½	14 56⅙ U.	114 51 37	43 49¼	179 40⅖	53½	6	☽ and ☉.
		14 51¼	25 33¼ U.	79 57 11	46 8::			4	☽ and ☉.
♄ —— 12.	9 51 59	15 52⅖	23 40⅓ U.	79 53 4	46 8::			5	☽ and ☉.
	9 59 29	16 24½	22 33 U.	79 49 58	46 8::			6	☽ and ☉.
♄ —— 26.	11 25 53	22 54¼	16 34 U.	68 6 15 ‡		197 27⅞	55	6	☽ and ☉.
☽ —— 28.	18 35 37	60 29⅓	47 25½ U.	53 14 34 ‡		198 11¼	50½	6	☽ and Antares.
♂ —— 29.	20 57 55½	72 0⅖	39 11¼ U.	38 12 1 †		199 19¼	51½	6	☽ and Antares.
☿ —— 30.	19 44 30		57 2 U.	23 1 28 ‡	43 8½	199 13½		2	☽ and Spica ♍.
♃ July 1.	19 25 40		61 47½ L.	62 28 0 †	43 4	202 15½		2	☽ and α Aquilæ: Very cloudy.
	19 41 43½		61 52½ L.	37 43 30 †	43 4	202 28½		4	☽ and Spica ♍.
♀ —— 2.		4 12½	12 35 9/10 U.	148 51 27	43 2⅖	203 11¼		7	☽ and ☉: Back Obs.
☉ —— 4.	17 11 6		21 9¼ L.	36 8 19 †		205 10¼	48½	4	☽ and Antares.
♂ —— 6.	6 21 44½	6 37	7 22⅚ U.	147 24 57	41 23	209 4½	51	7	☉ and ☽: Back Obs. Hazy.
♀ —— 9.	6 18 16	8 35	20 44 U.	111 26 15	43 27		52	1	☽ and ☉.
♄ —— 10.	6 44 49½	13 8¼	18 59 U.	99 53 47::	43 33½	216 53::		6	☽ and ☉: Dollond's Q.
		19 20½	8 36½ U	99 31 15::	43 33½	218 17½		2	☽ and ☉: Ramsden's.
☉ —— 11.	6 14 37½	10 37⅓	26 19¼ U.	88 56 42	43 17½	218 38	47	9	☽ and ☉: Dollond's.
	6 52 53	15 16⅙	20 39½ U.	88 45 57	43 17½	219 50	47	8	☽ and ☉: Ramsden's.
☽ —— 12.	2 41 45	63 28½	33 53½ L.	61 52 27 ‡		221 11¼	46	6	☽ and Fomalhaut.
	5 46 59	7 46¼	31 10⅙ U.	78 6 20	43 2½	220 24¼	47½	6	☽ and ☉: Dollond's Q.

1773	Time by Watch K H ′ ″	Altitude of the ☉ & L or Star ° ′	Moon's Altitude ° ′	Distance of the ☽ & L from ☉ or Star ° ′ ″	Latitude of the Ship S ° ′	Longitude East of Greenwich ° ′	Thermom	No of Obs	Objects
☽ July 12	7 3 32	17 13⅟₇	21 59⅙ U	77 45 2	43 2½	221 15¾	47½	6	☽ and ☉ Ramsden's Q
	It appears from the watch, that one or both of the foregoing altitudes of the Sun are badly observed								
☉ —— 25	17 39 16½	83 41½	26 8 L	57 15 2 †		223 34	62	5	☽ and Antares Hazy
☽ —— 26	12 2 14	26 42	51 57½ U	77 51 36	28 46	224 57½	67	5	☽ and ☉ Dollond's Q
	12 27 5½	22 41	56 32 U	78 1 50	28 45½	224 28½	67	6	☽ and ☉ Ramsden's
♂ —— 27	11 50 19	29 12½	41 32⅓ U	91 2 25	27 50½	225 17	69	6	☽ and ☉
	15 54 5		70 27½ L	17 10 45 †	27 47½	225 36½	65½	6	☽ and Spica ♍
	16 23 53	21 19½	66 20⅓ L	80 52 5 †		224 50½	65½	6	☽ and α Aquilæ
☿ —— 28	12 18 25	25 32½	36 38⅔ U	104 40 32	27 45	224 39	68	6	☽ and ☉
♃ —— 29	12 51 57½	12 22	32 20⅓ U	118 15 34	27 26⅙	224 25	70	6	☽ and ☉ Very hazy
♄ —— 31	13 47 41	9 32⅐	20 59⅙ U	145 27 8	26 9⅙	225 38¾	68	8	☽ and ☉ Back Obs
	15 59 52	79 42½	49 39½ U	30 17 11 †		225 24⅟₇	67½	6	☽ and Antares
☽ Aug 2	19 21 55½		68 47½ U	59 17 26 †	22 50	226 51	69	6	☽ and Antares
♂ —— 3	18 28 35½		43 52 L	73 9 38 †	21 48½	227 4		6	☽ and Antares
♄ —— 7	6 35 12	37 33	4 54½ U	119 14 25	18 9½			2	☽ and ☉ ☽ faint
☉ —— 8	6 38 57½	37 2⅔	15 6 U	108 9 9	17 44½	222 15		6	☽ and ☉
☽ —— 9	6 53 24	38 30½	22 30 U	97 3 35	17 24⅙	220 17½		4	☽ and ☉
☿ —— 11	5 59 10	25 6	49 37 U	75 19 48	17 12½	216 18		5	☽ and ☉ Hazy
♀ —— 13	5 29 21½	16 13½	52 41⅚ U	53 1 24 ‡		213 15⅐	78	6	☽ and ☉
	5 54 40	21 51½	53 58½ U	52 55 27 †		213 17½	78	6	☽ and ☉
♄ —— 14	5 37 7	16 27½	46 53 L	41 28 19 †	17 43⅓	211 52	77	4	☽ and ☉ ☽ very faint.
♃ Sept 9	6 10 7		48 2½ U	83 30 39 ‡	16 45½	208 12⅐	79	6	☽ & ☉ [illegible] Harbour
	6 40 36		43 32½ U	83 23 27 ‡	16 45½	208 29⅟₇	79	6	☽ & ☉
♀ —— 10	6 53 54		48 34⅙ U	72 3 12 †	16 45½	208 3½	80½	6	☽ & ☉
	7 15 26½		52 38½ U	60 25 39 ‡	16 25½	207 58½	76	6	☽ & ☉
♂ —— 21	16 30 29½	14 45	75 3 L	69 53 44	18 29	204 8	80½	3	☽ & ☉ Very cloudy
	15 43 54½	11 25½	71 56⅓ L	59 57 28	18 29	204 4½	80½	5	☽ & ☉
♀ —— 24	14 9 21	37 32½	42 3⅟₁₁ U	99 37 8	19 32½	199 59⅟₇	74½	6	☽ and ☉
	14 31 12½	32 34⅟₇	47 0 U	99 47 14	19 33½	199 3⅟₇	74½	3	☽ and ☉ Cloudy

1773.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. or Star. ° ′	Moon's Altitude. ° ′	Distance of the ☽'s L. from the ☉'s or Star. ° ′ ″	Latitude of the Ship S. ° ′	Longitude East of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
♄ Sept. 25.	13 37 39	46 24½	20 17¼ U.	112 11 58	19 55¼	198 0¼	73¼	6	☽ and ☉.
☿ —— 29.	20 41 41¼	49 23⅔	57 11 L.	56 50 22 †		190 14¼	67	3	☽ and α Aquilæ.
☉ Oct. 3.	21 32 53			70 22 40 †	21 4¼	185 36¼	69	6	☽ & Fomalhaut.
	21 55 28			54 39 28 †	21 4¼	185 1	69	6	☽ and α Pegasi.
	6 42 17		12 23 U.	146 24 20 ‡	21 4¼	185 6⅞	69	9	☽ & ☉: Back Obs.
☽ —— 4.	3 23 34		52 13⅓ U.	83 8 52 †	21 4¼	185 23¼	65¼	6	☽ & Fomalhaut.
	3 47 16		50 4⅔ U.	66 2 8 †	21 4¼	184 51¼	65¼	7	☽ and Pollux.
	7 8 13¼		15 29⅓ U.	135 14 25 †	21 4¼	184 5¼ ::	68	9	☽ & ☉: Back Obs.
☿ —— 6.	8 48 23		12 44⅞ U.	113 0 14 ‡	21 4¼	185 20⅓	72	9	☽ & ☉ D.
	9 1 34		10 4⅔ U.	112 53 25 ‡	21 4¼	184 51⅞	72¼	9	☽ & ☉ R.
♃ —— 7.	8 59 0¼	45 46¼	19 52⅔ U	101 58 21	22 1⅓	184 37	73⅓	5	☽ and ☉.
	9 22 18¼	50 57 $\frac{1}{10}$	15 11 U.	101 49 35	22 1⅓	184 45¼	73⅓	6	☽ and ☉.
♄ —— 9.	7 43 36¼	28 36¼	47 55⅙ U.	79 53 17	22 36⅓	183 59	70	6	☽ and ☉.
☉ —— 10.	9 31 36	51 30⅓	43 18¼ U.	67 22 14	23 42¼	182 27¼	69	6	☽ and ☉.
☽ —— 11.	8 2 43	30 50⅓	52 51¼ L.	55 35 12	25 18¼	181 53¼	69½	6	☽ and ☉.
☿ —— 20.	14 49 27	44 9¼	65 6½ U.	55 58 21	37 58⅔	179 49	61½	6	☽ and ☉.
♃ —— 21.	14 48 52	44 51¼	54 29⅔ U.	69 32 4	39 10¼	178 6	63⅓	6	☽ and ☉.
♄ —— 23.	15 50 33¼	34 54⅔	42 15¼ U.	95 50 0	40 28⅔	176 42¼	58	6	☽ and ☉.
♄ Dec. 4.	5 29 37	9 30	24 47 $\frac{1}{10}$ U.	119 25 16 ‡	50 4⅔	180 22¼	45	10	☽ and ☉: Very hazy.
♂ —— 7.	9 23 50	44 22⅓	24 18¼ U.	82 15 22	55 18½	181 30¼	45	6	☽ and ☉; Cloudy.
☿ —— 8.	10 14 5	48 52⅔	26 17¼ U.	69 11 12 ‡		182 11¼	45	6	☽ and ☉: Hazy.
☉ —— 19.	14 49 36	30 38⅙	32 18⅔ U.	69 12 39	64 49⅔	210 51		6	☽ and ☉.
♀ —— 24.	16 9 43	18 11 $\frac{9}{10}$	8 43 $\frac{9}{10}$ U.	126 31 18	67 3	223 0¼	33	10	☽ and ☉: Back Obs.
1774. ☿ Jan. 5		49 11¼	23 54¼ U.	89 40 13	52 12	224 45	46	1	☽ and ☉.
		52 1¼	20 51 U.	89 29 43	52 12	224 48¼	46	2	☽ and ☉.
♃ —— 6.		38 40¼	43 4⅙ U.	77 21 22	50 45½	226 35	47¼	3	☽ & ☉ Cloudy.
	6 17 7	42 30⅔	40 32⅙ U.	77 11 55	50 45½	226 36¼	47¼	6	☽ & ☉ Cloudy.
♀ —— 7.	6 29 19	46 2¼	48 19¼ U.	63 51 7	49 19	228 47¼	47¼	6	☽ and ☉.
	6 59 11	50 27⅙	45 18 U.	63 38 27	49 17	228 37	47¼	6	☽ and ☉.
♄ —— 8.	5 27 52¼	38 35⅙	56 48¼ U.	50 42 10 †		232 26¼	49	6	☽ and ☉.
☉ —— 16.	12 13 4¼	37 20⅙	38 27⅙ U.	47 13 8 ‡		241 9¼	48½	6	☽ and ☉: Very hazy.
♂ —— 18.	11 7 44	41 9	22 13¼ U.	70 47 30 ‡		243 23⅕	41½	8	☽ and ☉.
♃ Feb. 3	4 48 36	33 33¼	21 58¼ U.	95 56 51 †		259 53¼	34½	6	☽ and ☉.

At Tongatabu, one of the Friendly Isles.

1774	Time by Watch K. H ′ ″	Altitude of the ☉ L. L or ✱ °	Moon's Altitude	Distance of the ☽'s L. from ☉'s or ✱ ′ ″	Latitude of the Ship S °	Longitude East of Greenwich	Thermom	No of Obs	Objects
♃ Feb 3	5 11 18¼	25 13½	19 55⅓ U	95 46 31 †		260 15¼	34⊥	6	☽ and ☉
♀ —— 4		25 23½	36 53¼ U	83 35 22	64 28⅓	260 28	37⊥	4	☽ and ☉ Cloudy
♀ —— 18	10 17 0	38 53½	23 47 1/11 U	83 22 50	43 52¼	265 54⊥		6	☽ and ☉ Great sea
♄ —— 19	11 47 14	23 54½	27 28¼ U	94 48 15 ‡		264 16¼	59	6	☽ and ☉ Cloudy
☉ —— 20	10 35 31	36 47 7/8	14 27⅓ U	105 16 52	39 43⅙	264 59⊥	66	10	☽ and ☉
☽ —— 21	11 42 20	23 46¼	18 28 U	116 34 37	37 31⊥	266 13¼		8	☽ and ☉
☿ —— 23	4 57 23		35 20⅙ L	31 17 33 †		263 58⊥	66½	6	☽ and Regulus
	5 8 45¼		35 6 L	48 56 16 †		263 40½	66⊥	6	☽ and Aldebaran
☉ —— 27	5 58 31		37 25 L	22 2 24 †		257 46	66¼	6	☽ and Regulus
	6 15 9		40 0¼ L	31 57 59 †		258 17	66¼	6	☽ and Spica ♍
☽ —— 28		15 47	9 40¼ U	153 34 37	32 27¼	257 49¼		7	☽ and ☉
♂ March 1		22 39¼	15 34 1/11 U	140 26 53	31 22	157 58¼		10	☽ and ☉ Back Obs
☿ —— 2		21 27	29 29⅘ U	127 28 42	30 39⅘	258 18		10	☽ and ☉
♃ —— 3		17 25	46 7 U	114 25 45	30 6⊥	257 59½	74	10	☽ and ☉
♀ —— 4		28 18¼	48 33 9/10 U	100 49 15	29 45⊥	259 10		10	☽ and ☉
♄ —— 5	5 43 48	55 12½	32 50 U	86 35 42 †		259 6		9	☽ and ☉
☉ —— 6		45 48¼	56 33¼ U	73 36 42	28 28¼	258 3¼		8	☽ and ☉
☽ —— 7	6 13 17¼	57 28 7/8	55 57¼ U	59 53 15 †		256 28⊥		8	☽ and ☉
♂ —— 8		16 25½	63 20¼ L	47 38 18	27 5¼	255 0		10	☽ and ☉
☿ —— 16	11 38 51	35 4⅕	50 46 U	41 7 19	27 7	249 57⊥		6	☽ and ☉
♃ —— 17		27 16½	48 53⅓ U	52 47 59	26 38½	248 51⊥	76	10	☽ and ☉ Cloudy
♀ —— 18		39 7⅓	45 7¼ U	63 31 41	26 0⊥	248 52¼		8	☽ and ☉
♄ —— 19	11 23 32	40 6 7/8	39 21¼ U	74 32 4	24 41⊥	247 57¼	76⊥	4	☽ and ☉ Cloudy
		35 25¼	42 1⅓ U	74 37 46	24 41	248 2¼	76½	10	☽ and ☉
☽ —— 21	11 40 17	38 51¼	27 27 U	96 32 11	20 48⅓	246 16¼		6	☽ and ☉
			30 12 9/10 U	96 37 3	20 48	246 8⊥		6	☽ and ☉
♂ —— 22	11 37 20¼	40 39 1/10	17 54 U	107 36 0	19 13	245 13	75⊥	10	☽ and ☉
♃ —— 24		22 37¼	16 35⅓ U	130 57 55	16 55⅓		77	7	☽ and ☉ Back Obs

There seems to be something amiss in these last observations they are the first back observations that I have made which did not agree nearly with the others

1774	Time by Watch K. H ′ ″	Altitude of the ☉ L. L or ✱ °	Moon's Altitude	Distance of the ☽'s L. from ☉'s or ✱ ′ ″	Latitude of the Ship S °	Longitude East of Greenwich	Thermom	No of Obs	Objects
☽ —— 28	19 21 46¼		57 29 L	44 52 37 †		237 28⊥	79	6	☽ and Regulus
	19 40 38		62 2¾ L	54 41 21 † ✱		237 29	79	7	☽ and Antares
☿ —— 30		17 42½	17 22¾ U	144 23 26	9 18⊥	232 23	80	10	☽ and ☉ Back Obs

1774.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. or ✱. ° ′	Moon's Altitude. ° ′	Distance of the ☽'s L. from ☉'s or Star. ° ′ ″	Latitude of the Ship S. ° ′	Longitude East of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.	
♃ March 31.		25 $2\frac{2}{3}$	23 53 U.	130 31 5	9 $27\frac{1}{4}$	230 8	$80\frac{3}{4}$	8	☽ and ☉: Back Obs.	
♀ April 1.		20 $26\frac{1}{6}$	41 $49\frac{4}{5}$ U.	117 2 1	9 $28\frac{1}{4}$	228 42	$79\frac{1}{2}$	10	☽ and ☉.	
♄ —— 2.		17 $23\frac{4}{5}$	58 $8\frac{1}{2}$ U.	103 33 1	9 $31\frac{1}{3}$	227 $15\frac{3}{4}$	81	10	☽ and ☉.	
☉ —— 3.		20 $8\frac{1}{4}$	68 $37\frac{1}{2}$ U.	90 6 32	9 $32\frac{1}{2}$	225 $20\frac{7}{8}$	$81\frac{1}{4}$	10	☽ and ☉.	
♂ —— 5.		41 $57\frac{1}{10}$	74 $11\frac{2}{5}$ U.	63 20 16	9 $20\frac{1}{6}$	222 $11\frac{1}{2}$	82	10	☽ and ☉.	
☿ —— 6.		16 $54\frac{4}{5}$	67 $21\frac{2}{3}$ L.	51 1 16	9 38	221 $26\frac{3}{5}$	$77\frac{1}{2}$	10	☽ and ☉.	
♀ —— 15.	14 2 41	31 $9\frac{1}{3}$	57 $52\frac{1}{6}$ U.	44 51 38	13 $53\frac{1}{3}$	217 $2\frac{1}{2}$	$82\frac{1}{2}$	5	☽ and ☉.	
☉ —— 17.		38 $21\frac{11}{12}$	49 $32\frac{1}{2}$ U.	66 44 16	14 $28\frac{1}{2}$	215 $14\frac{3}{4}$		6	☽ and ☉.	
	14 47 $10\frac{1}{2}$	22 $43\frac{1}{3}$	56 46 U.	67 0 20	14 $29\frac{2}{5}$	215 8		8	☽ and ☉.	
☽ —— 18.	13 40 38	37 $35\frac{5}{6}$	42 $8\frac{1}{2}$ U.	77 46 1	15 $5\frac{1}{6}$	214 18		10	☽ and ☉.	
♂ —— 19.		25 $15\frac{1}{2}$	43 $41\frac{4}{5}$ U.	89 8 52	15 $41\frac{1}{2}$	213 $14\frac{3}{4}$	$81\frac{3}{4}$	10	☽ and ☉.	
☉ May 15.	15 3 23	20 $38\frac{1}{2}$	53 $22\frac{2}{5}$ L.	48 10 56	16 $42\frac{4}{5}$	209 $9\frac{9}{10}$	83	6	☽ & ☉	In Owharre harbour, Huaheine.
☽ —— 16.	14 9 41	31 $27\frac{3}{4}$		58 58 27	16 $42\frac{4}{5}$	209 $20\frac{1}{2}$	$84\frac{1}{2}$	6	☽ & ☉	
	17 57 50		37 $55\frac{1}{3}$ L.	31 32 16 †	16 $42\frac{4}{5}$		81	3	☽ and Regul.	
♂ —— 17.	15 19 56	17 $1\frac{4}{5}$		70 20 34	16 $42\frac{4}{5}$	209 $38\frac{4}{5}$	83	8	☽ & ☉	
☿ —— 18.	18 24 $23\frac{1}{2}$		52 $23\frac{1}{15}$ L.	60 36 18 †	16 $42\frac{4}{5}$	209 $37\frac{2}{3}$	81	6	☽ and Spica ♍	
♃ —— 19.	15 6 $38\frac{3}{4}$	19 $43\frac{2}{5}$		93 14 3	16 $42\frac{4}{5}$	209 17	$81\frac{1}{2}$	10	☽ & ☉	
	18 39 20		59 $19\frac{3}{4}$ L.	47 57 3 †	16 $42\frac{4}{5}$	209 $43\frac{3}{4}$	$80\frac{3}{4}$	6	☽ and Spica ♍	
♀ —— 20.	15 1 35	20 $43\frac{3}{4}$		105 9 5	16 $42\frac{4}{5}$	208 $27\frac{1}{2}$	$82\frac{1}{2}$	3	☽ & ☉	
	15 14 $56\frac{1}{2}$	17 $56\frac{1}{6}$		105 13 12	16 $42\frac{4}{5}$	208 $38\frac{2}{3}$	$82\frac{1}{2}$	5	☽ & ☉	
	17 42 53			35 19 4 †	16 $42\frac{4}{5}$	208 $47\frac{1}{6}$	$80\frac{1}{2}$	5	☽ and Spica ♍	
♄ —— 21.	15 15 51	17 $44\frac{3}{4}$		117 32 13	17 $42\frac{4}{5}$	208 $57\frac{1}{6}$	83	8	☽ & ☉	
	17 48 $25\frac{1}{2}$			22 5 6 †	17 $42\frac{4}{5}$	208 $31\frac{3}{4}$	$81\frac{3}{4}$	9	☽ and Spica ♍	
☉ —— 29.	4 16 $13\frac{1}{2}$	16 $17\frac{5}{8}$	72 $0\frac{1}{2}$ U.	57 5 28 †	16 $45\frac{1}{2}$	208 $22\frac{1}{6}$	75	10	☽ and Antares.	In Ohamaneno harbour, Ulietea.
☽ —— 30.		48 $6\frac{3}{4}$ *	26 $57\frac{1}{4}$ U.	123 15 49	16 $45\frac{1}{2}$	207 $59\frac{1}{12}$	78	10	☽ & ☉: Back Obs.	
		55 $48\frac{2}{3}$ *	34 $18\frac{2}{5}$ U.	109 51 16	16 $45\frac{1}{2}$	207 $57\frac{1}{10}$	$79\frac{1}{2}$	10	☽ & ☉	
♂ —— 31.		58 $51\frac{1}{3}$ *	43 $34\frac{1}{2}$ U.	96 55 29	16 $45\frac{1}{2}$	207 $50\frac{1}{6}$	80	10	☽ & ☉	
☿ June 1.		68 31 *	47 $30\frac{3}{4}$ U.	84 17 45	16 $45\frac{1}{2}$	208 $10\frac{1}{5}$	$78\frac{1}{2}$	6	☽ & ☉	
♃ —— 2.	7 46 25		64 54 U.	72 22 55 ‡	16 $45\frac{1}{2}$	208 $18\frac{3}{4}$	$78\frac{1}{2}$	2	☽ & ☉	
	8 2 16		61 $52\frac{1}{4}$ U.	72 18 20 ‡	16 $45\frac{1}{2}$	208 $18\frac{1}{2}$	$78\frac{1}{2}$	6	☽ & ☉	
♀ —— 3.			54 $35\frac{1}{2}$ U.	60 9 35 †	16 $45\frac{1}{2}$	208 $12\frac{7}{8}$	81	10	☽ & ☉	
♄ —— 4.	8 12 3	30 $34\frac{1}{3}$	65 $30\frac{1}{10}$ L.	48 52 28	16 $44\frac{1}{2}$	207 $22\frac{1}{10}$	$82\frac{1}{4}$	10	☽ and ☉.	
☽ —— 13.	15 41 33	20 $12\frac{1}{6}$	52 22 L.	41 15 45	18 $46\frac{1}{2}$	197 $49\frac{1}{2}$	$77\frac{1}{2}$	3	☽ & ☉	Cloudy.
	15 57 57	17 $0\frac{1}{12}$	50 51 L.	41 20 18	18 $46\frac{1}{2}$	197 $44\frac{1}{2}$	$77\frac{1}{2}$	8	☽ & ☉	
♂ —— 14.	2 49 17	30 $45\frac{1}{3}$	54 $54\frac{1}{2}$ L.	52 12 35 ‡		197 50	$76\frac{1}{3}$	10	☽ and ☉.	

* These are double altitudes of the ☉'s L. L. taken with Hadley's Sextant from a quickfilver horizon.

1774.	Time by Watch K	Altitude of the ☉'s L L or *	Moon's Altitude	Distance of ☽'s L from ☉'s or Star	Latitude of the Ship S	Longitude East of Greenwich	Thermom	No of Obs	Objects
	H ' "	° '		° ' "		° '			
♂ June 14	18 23 13	69 5¼	38 48½ L	64 7 14 †		198 3	75½	10	☽ and Spica ♍
☿ — 15	14 43 8	32 4⅘	51 34½ U	63 31 56 ‡		197 51	75	10	☽ and ☉
	18 38 33½	72 55⅓	46 36¾ L	51 43 42 †		197 50	74¾	10	☽ and Spica ♍
♃ — 16	14 40 14	33 0⅞	45 6⅓ U	75 6 44 ‡		197 44	75½	10	☽ and ☉
	18 31 52½	72 14⅓	58 35½ L	39 13 35 †		197 51¼	74¾	8	☽ and Spica ♍
♀ — 17	15 14 50	28 7½	43 21¼ U	87 13 6	18 5	196 5¼	74¼	6	☽ and ☉ Doll Q.
	15 25 51	26 8⅙	45 41 U	87 17 40	18 5	195 38	74¼	6	☽ and ☉ Ramf Q
	18 48 3	75 21⅓	66 37½ L	26 18 15 †		195 55½	73	7	☽ and Spica ♍
☉ — 19	16 23 46	27 15⅞	37 37½ U	112 20 27	18 27⅓	192 5	76	7	☽ and ☉ Very hazy
	18 55 53	36 41⅙	70 46½ U	45 24 41 †		192 28	75	10	☽ and Antares
☽ — 20	17 5 49	9 56⅙	34 53½ U	126 5 46	18 59	190 30¼	76¼	10	☽ and ☉ Back Obs
♂ — 21	19 51 56	80 56⅙	60 47¼ U	31 20 0 †		190 33	79	6	☽ and Spica ♍
	20 3 47	51 46	63 29½ U	17 53 2 †		190 10	79	6	☽ and Antares
☿ — 22	22 31 19	48 55⅙	83 7½ U	47 23 28 †		189 41	76	6	☽ and Spica ♍
	23 5 31	36 32½	88 6 U	53 40 45 †		189 11	76	6	☽ and α Aquilæ
♃ — 23	7 54 53	79 57⅓	31 46½ L	61 35 21 †		188 16	76½	10	☽ and Spica
☉ — 26	8 28 13½	12 10⅓	19 45⅙ U	140 34 41	20 15	185 46	74½	9	☽ and ☉ Back Obs
☽ — 27	8 54 49½	17 21⅓	25 9 U	126 58 44	20 15	184 50		10	☽ and ☉ Ditto
♂ — 28		18 18⅓	34 30½ U	113 59 51	20 13	185 7¼	74½	10	☽ and ☉
		33 3½	15 29½ U	113 22 18	20 12	185 2½	77	10	☽ and ☉
☿ — 29	3 36 41	27 24	72 25⅓ L	61 30 17 †		185 42⅓	74½	6	☽ and α Aquilæ
♀ July 1	17 19 35	21 51⅓	53 53½ U	77 22 35	20 0½	182 4¼	72	8	☽ and ☉ Doll Q.
	17 29 28	23 38⅓	52 13½ U	77 20 54	20 0½	182 21	72	10	☽ and ☉ Ramf Q
♄ — 2	4 14 4½	69 16½	47 11 L	63 38 34 ‡		181 49¼	71	8	☽ and Fomalhaut
	6 54 19	16 45	59 47 U	67 0 37	19 45	181 46¼	72	6	☽ and ☉ Doll Q

1774.	Time by Watch K.	Altitude of the ☉'s L. L.	Moon's Altitude.	Distance Moon's L. from Sun's or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Objects.
	H ′ ″	° ′	° ′	° ′ ″	° ′	° ′			
♄ July 2.	7 1 39	18 9¼	59 17⅓ U.	66 29 24	19 45	181 59¼	72	6	☽ and ☉: Ramf. Q.
	8 13 1	31 5¼	50 28½ U.	65 41 47	19 45¼	182 18½	72½	6	☽ and ☉: Mr. Clerke's Q.
☉ —— 3.	7 11 2	19 29¼	56 54⅓ L.	54 42 7	19 58⅔	181 49⅞	75½	6	☽ and ☉: Dol. Q.
	7 16 50	20 35⅞	56 49⅓ L.	54 40 48	19 58⅔	181 47¼	75½	6	☽ and ☉: Ramf. Q.
	8 31 36	33 40$\frac{11}{12}$	51 46¼ U.	54 23 19	20 1	182 5¼	75½	6	☽ and ☉: Mr. Clerke's Q.
☽ —— 4.	6 38 58½	12 4⅓	48 50 L.	43 43 7	20 34¼	180 42¼	75	6	☽ and ☉: Dol. Q.
	6 46 46	13 36⅝	49 40 L.	43 42 8½	20 34¼	181 3¼	75	6	☽ and ☉: Ramf. Q.
☿ —— 13.		28 49¼	65 9⅘ L.	46 57 35	16 20⅓	173 10½	76½	6	☽ and ☉: Dol. Q.
		27 22⅛	65 0⅝ L.	47 0 10	16 20¼	172 51¼	76½	6	☽ and ☉: Ramf. Q.
	6 12 8	76 5¼	34 15⅓ L.	41 38 58 †		173 35	75¼	8	☽ and Spica ♍.
♃ —— 14.	14 34 41	33 8$\frac{1}{11}$	65 20⅛ U.	58 40 22	15 33	172 18	77¼	6	☽ and ☉: Dol. Q.
	14 41 13½	31 56$\frac{1}{12}$	66 13¼ U.	58 42 21	15 33	172 12	77¼	4	☽ and ☉: Ramf. Q.
♀ —— 15.	15 21 13½	25 37⅗	67 58⅝ U.	70 57 24	15 9⅓	170 55¼	79	6	☽ and ☉: Dol. Q.
	15 26 55	24 29⅕	68 58 U.	70 59 20	15 9⅓	170 51¼	79	4	☽ and ☉: Ramf. Q.
	18 45 53	64 26¼	53 21¼ L.	61 53 34 †		171 14¼	78½	8	☽ and Antares.
☿ —— 20.	18 48 51	66 20	58 14⅞ U.	55 37 59 †		168 36	74½	8	☽ and Spica ♍.
	19 3 46	17 28$\frac{1}{10}$	61 45 U.	46 50 50 †		168 2⅓	74½	8	☽ and α Aquilæ.
♃ —— 21.	20 49 42	36 39⅓ T.	49 53⅓ T.	71 33 5 ‡	16 25⅓	167 40½	74	12	☽ and Spica ♍.
♀ —— 22.	18 56 16			40 48 55 ‡	16 25⅓	168 25	75	10	☽ and Antares.
♄ —— 23.	18 39 1	67 46½ T.	14 29½ T.	55 56 46 †	16 33½	168 17½	77½	7	☽ and Antares.
♂ —— 26.		22 27⅙	14 12⅓ U.	131 44 56	17 53½	169 33½	74	10	☽ and ☉: Back Obs.
☿ —— 27.		22 25⅔	23 48½ U.	119 11 55	18 25⅓	169 31½	72½	4	☉ and ☉.
♃ —— 28.	7 37 38	16 40	38 57½ U.	107 13 53	18 27	170 3	70½	8	☽ and ☉: Dol. Q.

1774	Time by Watch K H ′ ″	Altitude of the ☉'s L. L. ° ′	Moon's Altitude. ° ′	Distance Moon's L. from Sun's or Star ° ′ ″	Latitude of the Ship S ° ′	Longitude East of Greenwich ° ′	Thermom.	No. of Obs.	Objects
♃ July 28	7 45 28	18 19	37 21 U	107 11 43	18 27	170 13	70½	8	☽ and ☉ Rams Q
♄ —— 30	7 40 48	17 10½	51 37 U	83 53 59	18 23	168 45½	73¾	6	☽ and ☉ Dol Q
	7 46 45	18 26½	50 43½ U	83 54 14	18 23	170 14¾	73¾	3	☽ and ☉ Rams Q
	7 59 22	21 1½	48 39½ U	83 51 14	18 23	169 43	73¾	8	☽ and ☉ Rams Q
	9 56 20	42 46½	25 53½ U	83 14 8	18 22	168 38	76	6	☽ and ☉ Dol Q
☉ —— 31	8 37 10	28 32½	47 56¼ U	72 25 51	18 24⅓	168 41⅜	75¾	8	☽ and ☉ Dol Q
	8 42 55	29 39⅞	47 5¾ U	72 26 8	18 24⅓	169 31⅞	75¾	8	☽ and ☉ Rams Q
	11 20 15	52 2⅘	16 49½ U	71 36 55	18 30½	169 43	74	3	☽ and ☉ Rams Q
	11 23 6¼	53 13¼	16 15 U	71 34 33	18 30½	169 2⅜	74	3	☽ and ☉ Dol Q

The disagreement in the results of Observations made this day and the day before, with different Quadrants, is extraordinary indeed! nor is it the first time that it has happened. I was determined *now*, if possible, to find out the cause of it; the fineness of the weather, the stillness of the ship, and every other circumstance whatsoever conspiring to give me an advantageous opportunity. Accordingly, before the two last Observations of each day, the Quadrants were examined and adjusted in every particular, with the utmost care, and I am as certain as it is possible to be, that there was nothing amiss in either of them.

1774	Time by Watch K H ′ ″	Altitude of the ☉'s L. L. ° ′	Moon's Altitude. ° ′	Distance Moon's L. from Sun's or Star ° ′ ″	Latitude of the Ship S ° ′	Longitude East of Greenwich ° ′	Thermom.	No. of Obs.	Objects
☽ Aug. 1	8 51 25⅜	31 3	50 14½ U	61 18 47	18 45½	168 50⅛	76	8	☽ and ☉ Dol Q
	8 58 4	32 19⅜	49 25⅞ U	61 18 17	18 45	169 24⅞	76	8	☽ and ☉ Rams Q
♂ —— 2	8 42 38	29 52	52 30⅜ L	50 21 34	18 38	169 10¼	73	8	☽ and ☉ Dol Q
	8 51 40	31 36¾	52 2¼ L	50 20 12	18 38	169 26¾	73	8	☽ and ☉ Rams Q
☿ —— 3	5 35 0	45 54¾	25 52 L	24 19 17 ‡	18 43½	168 46¾	70¾	6	☽ and Aldebaran
	8 10 35	23 24	49 34⅝ L	39 31 4	18 43½	169 8⅝	74¾	6	☽ and ☉ Dol Q
	8 18 10	24 57½	50 5¾ L	39 29 22	18 43½	169 22⅛	74¾	6	☽ and ☉ Rams Q
☉ —— 21	21 54 29	38 55½	62 1½ T	79 40 45 †	19 41	170 5¾	69¾	6	☽ and Antares
♃ —— 25	3 42 7	41 31⅜ T	67 53½ L	41 59 11 ‡	15 2	166 44½		8	☽ and Aldebaran

1774.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. ° ′	Moon's Altitude. ° ′	Distance of ☽'s L. from Sun's or Star. ° ′ ″	Latitude of the Ship S. ° ′	Longitude East of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
♃ Aug. 25.	7 52 49	21 39⅕		126 8 35	15 6½		76¼	6	☽ and ☉: Back Obs.
♀ —— 26.	4 15 14	48 24 T.	64 35⅕ L.	28 54 45 ‡	14 47½	167 19¼	74	8	☽ and Aldebaran.
	4 28 50	26 51⅙ T.	64 14¼ L.	52 7 5 ‡	14 47½	166 33¼ :	74	8	☽ and α Pegasi.
	7 25 12	15 24 11/12	37 22⅙ T.	114 28 48	14 45	167 20½	74½	10	☽ and ☉.
♄ —— 27.	4 47 29	12 9¼ T.	61 21¼ L.	60 32 6 ‡	14 47	166 31½	74½	6	☽ and Pollux.
	4 57 57	19 43⅔ T.	61 28⅕ L.	63 42 58 ‡	14 47	167 44¼ :	74½	6	☽ and α Pegasi.
	7 43 11	19 22⅕	41 30⅘ U.	102 52 52	14 47½	167 12⅞	78½	6	☽ and ☉: Dol. Q.
	7 49 39	20 52	40 17½ U.	102 51 11	14 47½	167 21⅞	78½	6	☽ and ☉: Ramf. Q.
☉ —— 28.	7 50 37	21 7⅗	47 8¼ U.	91 34 31	14 57⅙	166 47⅙	78	8	☽ and ☉: Dol. Q.
	7 56 58½	22 37⅗	46 2¼ U.	91 33 5	14 57⅙	166 51¼	78	8	☽ and ☉: Ramf. Q.
☽ —— 29.	10 48 18	58 8⅖	20 39½ U.	79 37 2 †		165 44¼ :	79	6	☽ and ☉: Dol. Q.
	10 55 9	59 11	19 12⅙ U.	79 35 43 †		166 26⅜	79	6	☽ and ☉: Ramf. Q.
♂ —— 30.	4 36 56	52 42⅕	36 57 T.	20 7 22 ‡	15 44	167 12⅙	75⅓	6	☽ and Aldebaran.
	11 33 47	63 53⅕	20 18⅔ U.	68 26 3 †		166 23	77	3	☽ and ☉: Dol. Q.
	11 45 8	64 38⅖	18 55 U.	68 22 53 †		166 50⅕	77	1	☽ and ☉: Ramf. Q.
☿ —— 31.	4 46 33	53 56½	29 15⅚ L.	32 3 26 ‡		166 33		7	☽ and Aldebaran.
	9 52 17	47 30⅗	47 22⅙ U.	57 58 45	16 27⅙	165 45	76¼	6	☽ and ☉: Dol. Q.
	9 57 43	48 33¼	46 35½ U.	57 58 32	16 27⅙	166 29¼	76¼	6	☽ and ☉: Ramf. Q.
	10 2 33	49 31⅗	45 55⅓ U.	57 57 0	16 27⅙	166 11½	76¼	6	☽ and ☉: Dol. Q.
♂ Sept. 13.	15 13 13	40 40⅔	48 7¼ U.	89 15 32	19 47	164 13¼	77	8	☽ and ☉: ditto.
	15 20 24½	39 6⅕	49 48⅙ U	89 18 50	19 47	164 0⅙	77	10	☽ and ☉: Ramf. Q.
☿ —— 14.	16 26 58	24 44⅗	51 26⅓ U	103 5 58	19 18	163 46	79	6	☽ and ☉: Dol. Q.
	16 33 6	23 21⅕	52 52⅕ U	103 9 15	19 18	163 24½	79	3	☽ and ☉: Ramf. Q.

1774.	Time by Watch K H ′ ″	Altitude of the ☉'s L. L.	Moon's Altitude	Distance of the ☽'s L. L. from ☉'s or ✱ ° ′ ″	Latitude of the Ship S.	Longitude East of Greenwich ° ′	Thermom.	No. of Ob.	Objects
♃ Sept 15	15 20 11	39 48$\frac{4}{5}$	23 1$\frac{1}{4}$ U	116 4 46	19 18	163 33$\frac{1}{4}$	83	4	☽ and ☉ Dol Q
	15 25 37	38 36$\frac{1}{2}$	24 13$\frac{3}{5}$ U	116 6 11	19 17$\frac{1}{4}$	163 53$\frac{1}{4}$	83	7	☽ and ☉ Ramf Q
	15 30 48	37 27$\frac{1}{5}$	25 23$\frac{4}{5}$ U	116 9 2	19 17$\frac{1}{4}$	163 43$\frac{1}{4}$	83	5	☽ and ☉ Dol Q
☽ —— 19	0 42 39	15 47$\frac{4}{5}$	68 44 L	57 6 25 ‡		166 6$\frac{1}{4}$	71$\frac{1}{2}$	6	☽ and α Aquila.
	1 3 48	43 12$\frac{1}{5}$ T	65 8$\frac{1}{6}$ L	45 20 47 ‡	20 25$\frac{1}{4}$	165 33$\frac{1}{4}$	72$\frac{1}{4}$	6	☽ and α Arietis
♂ —— 20	0 40 52	14 54$\frac{3}{5}$	68 47$\frac{1}{2}$ L	69 51 9 ‡		166 20$\frac{1}{4}$	71$\frac{1}{4}$	6	☽ and α Aquilæ
	1 0 6	24 24	68 3 L	62 4 27 ‡		165 37	71$\frac{1}{2}$	6	☽ and Aldebaran
☿ —— 21	22 15 42	44 36$\frac{1}{4}$	38 3$\frac{1}{4}$ L	81 20 18 †		166 15$\frac{1}{4}$	71$\frac{1}{2}$	6	☽ and α Aquila.
	4 39 39	14 22$\frac{1}{5}$	36 12$\frac{1}{3}$ U	50 52 43 ‡		166 29$\frac{1}{4}$	71$\frac{1}{2}$	6	☽ and Fomalhaut
	4 52 29	52 38$\frac{1}{5}$	33 30$\frac{1}{5}$ U	47 7 25 ‡		166 46$\frac{1}{6}$	71$\frac{1}{2}$	6	☽ and Aldebaran
♃ —— 22	2 10 29	39 2	58 52$\frac{1}{4}$ L	34 52 1 ‡		166 59$\frac{1}{4}$	70	4	☽ and Aldebaran verycloudy
	2 38 19$\frac{1}{4}$	43 22$\frac{1}{4}$	57 57$\frac{1}{6}$ L	34 43 46 †		167 10$\frac{1}{4}$	70	6	☽ and do cloudy
	2 54 24	35 33	56 58 L	61 32 1 ‡			70	1	☽ and Fomalhaut verycloudy
♀ —— 23	2 4 36	38 54$\frac{1}{4}$	53 38$\frac{1}{6}$ L	22 2 3 ‡		168 14	71	6	☽ and Aldebaran
	2 17 23$\frac{1}{4}$	42 30$\frac{1}{5}$	54 17$\frac{1}{4}$ L	73 31 35 ‡		168 17	71	6	☽ and Fomalhaut
		21 37$\frac{4}{5}$	14 9$\frac{1}{4}$ U	133 50 39	21 57$\frac{1}{5}$	167 8$\frac{1}{4}$		6	☽ and ☉ Back Obs.
♄ —— 24	23 21 12	40 25$\frac{1}{4}$	17 3$\frac{1}{10}$ L	69 0 43 ‡		167 53$\frac{7}{8}$	72	10	☽ and α Pegasi Hazy
☿ —— 28	9 6 8	42 16	38 27$\frac{1}{5}$ U	77 51 28 ‡		167 48$\frac{1}{4}$	78	6	☽ and ☉ Dol Q
	9 11 47$\frac{1}{4}$	43 28	37 38$\frac{1}{5}$ U	77 49 50 ‡		167 47$\frac{1}{4}$	73	6	☽ and ☉ Ramf Q
♃ —— 29	3 56 13$\frac{1}{4}$	51 34$\frac{1}{6}$	22 37$\frac{1}{6}$ L	51 21 41 †		167 17$\frac{1}{4}$	69$\frac{1}{4}$	6	☽ and Aldebaran
	7 41 35	23 23$\frac{1}{3}$	50 30 U	67 8 45 †		167 13$\frac{1}{8}$	72	6	☽ and ☉ Dol Q
	7 47 38	24 46$\frac{1}{6}$	50 28$\frac{1}{5}$ U	67 8 3 †		167 36	72	6	☽ and ☉ Ramf Q

1774.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. ° ′	Moon's Altitude. ° ′	Distance of ☽'s L. from Sun's or Star. ° ′ ″	Latitude of the Ship S. ° ′	Longitude East of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
♃ Sept. 29.	11 15 59	66 52⅓	25 29¼ U.	66 10 10 †		167 35⅓	73	5	☽ and ☉: Bird's Q.
	11 29 54	68 22¼	22 47½ U.	66 3 25 †		167 10⅓	73	6	☽ and ☉: Mr. Smith's Q.
	11 35 1	68 49⅓	22 48¼ U.	66 2 13 †		167 17¼	73	6	☽ and ☉: Mr. Clerke's.
♄ Oct. 1.	7 12 36	18 52	44 36 L.	44 40 59	23 17½	169 32½	66	6	☽ and ☉: Dol. Q.
	7 21 36	20 53⅞	45 52⅓ L.	44 39 24.	23 17½	169 58¼	66	6	☽ and ☉: Ramſ. Q.
♄ —— 8.	19 0 38	52 44	20 39⅘ L.	70 0 38 †		170 52	63¾	10	☽ and α Aquilæ.
☉ —— 9.	14 42 50	44 22⅗	76 8⅓ U.	45 28 31	28 55	168 51⅓	62½	6	☽ and ☉: Dol. Q.
	14 49 26	42 55⅓	76 34⅛ U.	45 30 38	28 55	168 48	62½	6	☽ and ☉: Ramſ. Q.
	15 16 15½	37 27	75 43⅗ U.	45 39 48	28 55	168 41¼	62½	6	☽ and ☉: Bird's Q.
	11 7 15½	64 13⅗	24 20 U.	57 26 36 †		168 21¼	63½	1	☽ and ☉: Dol. Q.
☽ —— 10.	16 30 18	22 36¼	76 41¼ L.	59 29 37	29 0	168 6¼		8	☽ and ☉: Ramſ. Q.
♂ —— 11.	14 51 34	43 48⅚	59 36⅛ U.	72 24 0	29 29	167 37½	64½	6	☽ and ☉: Dol. Q.
	14 59 2	42 14⅗	61 5⅞ U.	72 26 45	29 29	167 35¼	64¼	8	☽ and ☉: Ramſ. Q.
☿ —— 12.	15 16 15	38 31¼	51 58¼ U.	85 54 47	31 17½	167 36	65¼	8	☽ and ☉: Dol. Q.
	15 25 54	36 26½	53 56¼ U.	85 58 34	31 17½	167 29	65¼	8	☽ and ☉: Ramſ. Q.
♃ —— 13.	15 46 15	31 34	45 59 U.	99 21 50	33 4⅗	166 18½	63	6	☽ and ☉: Dol. Q.
	15 52 37	30 14⅗	47 14¼ U.	99 24 46	33 4⅔	168 8½	63	6	☽ and ☉: Ramſ. Q.
	19 6 19	36 36⅗	73 34⅓ U.	54 49 33 †		168 50½	62	6	☽ and Antares.
	19 22 40	32 51⅓	72 28⅓ U.	50 36 8 †		168 42¼	62	5	☽ and α Pegaſi.
♀ —— 14	16 31 26	21 17½	43 16⅗ U.	112 48 7	34 21	169 29	62½	6	☽ and ☉: Dol. Q.
	16 36 14	20 16⅛	44 12 U.	112 49 25	34 21	169 43¼	62½	6	☽ and ☉: Ramſ. Q.
	19 46 20	26 55⅛	69 35⅗ U.	69 0 34 †		170 17	61½	6	☽ and Antares: cloudy.
	19 54 32	36 36⅛	69 27¼ U.	37 59 37 †		168 57⅞	61½	4	☽ and α Pegaſi: cloudy.

1774	Time by Watch K H ′	Altitude of the ☉ ' s L L	Moon ' s Altitude	Distance of the Moon ' s L. from Sun ' s or Star	Latitude of the Ship S ′	Longitude Last of Greenwich	Thermom	No. of Obs	Objects
♀ Nov 11	14 18 8½	47 9 1/11	31 35½ U	94 27 10	42 22⅙	174 51⅛	62	6	☽ and ☉ Dol Q
	14 23 31	46 12½	32 30⅘ U	94 29 10	42 22⅙	175 3¼	62	7	☽ and ☉ Ramf Q
♄ —— 12	15 45 3	31 14 1/7	34 48 1/7 U	107 48 49	43 27	175 42¼	64	6	☽ and ☉ Dol Q
	15 50 35	30 13 1/10	35 41⅔ U	107 50 51	43 27	175 50¼	64	6	☽ and ☉ Raml Q
♂ Dec 6	6 8 16	58 33⅙	33 44 U	45 9 48 †		251 57 1/7	46	6	☽ and ☉ Dol Q
	6 14 9	58 43 1/7	34 33 1/7 U	45 12 31 †		251 32	46	6	☽ and ☉ Ramf Q
☿ —— 7	10 4 26	40 13⅞	53 17⅙ L	46 53 12	53 20⅙	252 28¼	48	6	☽ and ☉ Dol Q
	10 7 59	39 11½	53 10 L	46 55 0	53 20¼	252 24 1/7	48	2	☽ and ☉ Ramf Q
	6 25 25	58 59 1/11	27 23⅓ U	58 52 48 †		254 32	47	6	☽ and ☉ Dol Q
☽ —— 12	8 43 40	43 46	12 38⅛ U	110 33 15	53 22¼	267 45¼	47	8	☽ and ☉ ditto
	8 52 48½	42 27½	13 51¼ U	110 37 7	53 22¼	268 3 1/7	47	8	☽ and ☉ Ramf Q
		29 23	24 25¼ U	111 15 15	53 22 1/7	268 14⅙	46½	4	☽ and ☉ Dol Q
	15 41 46	19 20⅛ T	24 57⅞ L	52 43 57 †	53 22	268 19	43	10	☽ and Aldebaran.
♂ —— 13	15 46 22	19 53 T	23 58¼ L	39 54 31 †	53 24	271 11 1/7	43	6	☽ and ditto
1775.									
♀ Jan 6	6 53 56	38 29½	40 25 1/11 U	52 30 15 ‡		305 34¼	43	7	☽ and ☉ Ramf Q Hazy
	7 2 46½	37 25¼	40 22⅛ U	52 33 10 ‡		305 58¼	43	8	☽ and ☉ Dol Q Hazy
♄ —— 7	5 49 38½	46 15	33 3¼ U	65 10 50 ‡		306 55 1/7	43	7	☽ and ☉ Dol Q
	5 57 22	45 23⅓	33 35½ U	65 15 15 ‡		306 23	43	6	☽ and ☉ Ramf Q
☉ —— 8	5 38 52	47 49 1/7	25 14½ U.	77 47 48 ‡		308 2⅛	49	6	☽ and ☉ Dol Q
	5 44 25	47 8 1/11	25 46⅝ U	77 50 34 ‡		307 49¼	49	6	☽ and ☉ Ramf Q.
	13 4 23	18 38¼	11 58⅞ U	57 48 4 †		307 58 1/7	45	7	☽ and Aldebaran

1775.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. ° ′	Moon's Altitude. ° ′	Distance of the ☽'s L. from ☉'s or Star. ° ′ ″	Latitude of the Ship S. ° ′	Longitude East of Greenwich. ° ′	Thermom.	No. of Obs.	Observ.
☿ Jan. 25.		16 52½	42 55$\frac{1}{12}$ L.	82 54 27	57 7	329 13	43	6	☽ and ☉: Dol. Q. Hazy.
	23 17 53	40 47$\frac{1}{12}$	32 54½ U.	81 40 24 †		329 15¾	42½	4	☽ and ☉: ditto, and very hazy.
	23 32 2	42 17$\frac{9}{10}$	31 25½ U.	81 34 8 †		329 12	42½	4	☽ and ☉: Ramf. Q. very hazy.
	Repeated a day, and rejected 360° of Longitude.								
♀ Feb. 17.	9 44 14½	19 31⅔ T.	17 30⅔ L.	28 27 10 †	54 23¼	8 23½	33¼	5	☽ and Regulus: Dol. Q.
	9 54 51	20 8¼ T.	18 45½ L.	28 29 52 †	54 23¼	9 17¾	33¼	5	☽ and Regulus: Ramf. Q.
	10 5 18	20 57⅔ T.	19 56⅔ L.	25 55 43 †	54 23¼	9 40½	33¼	5	☽ and Spica ♍: Ramf. Q.
	10 13 43	22 0 T.	20 51$\frac{1}{12}$ L.	25 51 56 †	54 23¼	9 40½	33¼	6	☽ and Spica ♍: Dol. Q.
♂ —— 21.	17 49 43	17 54½	40 28 U.	102 40 9 ‡		21 51½	35	1	☽ and ☉: Dol. Q. verycloudy.
	18 16 19	21 43	37 44 U.	102 28 39	55 4	21 22½	35	3	☽ and ☉: Dol. Q. verycloudy.
	18 21 48½	22 24$\frac{9}{10}$	37 7 U.	102 26 50	55 4	21 27½	35	2	☽ and ☉: Ramf. Q. verycloudy.
♃ Feb. 23.	19 22 52	13 23$\frac{1}{12}$	45 36½ U.	76 15 51	53 5½	25 50	38	8	☽ and ☉: cloudy.
♀ —— 24.	19 39 27½	37 36$\frac{11}{12}$	51 42⅞ U.	62 47 25 †		28 21	38½	6	☽ and ☉: Dol Q. hazy.
	19 49 39	39 52⅔	50 37⅓ U.	62 41 18 †		27 32½	38½	5	☽ and ☉: Ramf. Q. hazy.
♄ —— 25.	19 28 31½	37 17⅓	57 43⅝ U.	49 8 20	49 32½	29 25½	42	6	☽ and ☉: Dol. Q. cloudy.
	19 45 24	39 24⅓	56 39½ U.	49 1 57	49 31½	29 38½	42	6	☽ and ☉: Ramf. Q. cloudy.
♄. March 4.	1 45 5⅓	30 16⅓		34 59 58	43 49½		57	3	☽ and ☉.

1775	Time by Watch K. H ′ ″	Altitude of the ☉ L L	Moon's Altitude ° ′	Distance of the ☽'s L. from ☉'s or * ′ ″	Latitude of the Ship S	Longitude East of Greenwich ° ′	Thermom.	No. of Obs	Objects
☽ March 6	0 58 42	38 51⅘	33 24 U	59 38 45 †		27 10⅘	54	6	☽ and ☉: Dol Q
	1 7 35	37 29	33 53 U	59 42 15 †		26 54¼	54	2	☽ and ☉ Ramſ Q
♂ — 7	1 28 27½	34 28⅛	29 33½ U	71 37 8	41 48½	26 14⅛	60¼	2	☽ and ☉
♃ — 9	6 0 31		26 13⅕ L	61 53 31 †		25 32½	55	4	☽ and Regulus
♀ — 10	1 55 25	31 5¼	11 52⅓ U	105 19 35	40 50	23 40⅛	52½	5	☽ and ☉ Dol Q
	1 58 43	30 30 1/11	12 20½ U	105 21 15	40 50		52½	2	☽ and ☉ Ramſ Q
	2 26 6	25 42¼	16 3⅓ U	105 30 51	40 49⅓	23 47	52¼	10	☽ and ☉ ditto
	6 15 24		28 53⅓ L	30 15 50	40 45½		51	1	☽ and Aldebaran Cloudy
♃ — 16	7 54 14	27 31½	36 11⅘ L	30 48 45 †		22 18¼	67	6	☽ and Spica ♍
	8 9 18	41 14¼	38 26¼ L	23 36 52 †		22 12½	67	6	☽ and Regulus
♀ — 17	8 50 54	39 1¼	40 31⅓ L	17 41 35 †		20 1¼	67	6	☽ and Spica ♍
	8 57 43½	42 2¼	41 33½ L	37 10 30 †		21 16	67	2	☽ and Regulus
☿ May 3		20 4¼	42 50⅔ U	44 11 4	26 51	6 19¼	68¼	8	☽ and ☉
	6 22 15	49 37⅓	19 55⅛ L	58 34 25 †		7 31	67½	8	☽ and Regulus
♃ — 4	0 30 20	45 30¼	26 39¼ U	54 40 13 ‡		5 52¼	67	6	☽ and ☉
	2 16 56	32 33½	40 33 U	55 8 40 ‡		5 59¼	67½	10	☽ and ☉
	6 10 0	49 26¼	30 44¼ L	46 28 21 †		6 50	67	7	☽ and Regulus
☉ — 7		25 56¼	33 26¼ U	88 20 58	23 16	3 19½	66¼	8	☽ and ☉
	4 32 25½	10 47	45 13 U	88 40 7 ‡		3 10⅛	66½	8	☽ and ☉
	6 17 44	33 28½	51 31½ L	64 19 30 †		3 11¼	66	8	☽ and Spica ♍
☽ — 8	3 30 40½	24 57½	28 56⅛ U	99 26 10 ‡		1 50¼	67½	8	☽ and ☉
	6 34 35½	36 47⅞	55 50½ U	52 14 57 †		1 54	66½	9	☽ and Spica ♍
♂ — 9	3 50 44½	22 18⅛	24 47⅛ U	110 43 45	20 34¼	West 0 18	67½	8	☽ and ☉
	6 35 28½	36 39⅓	55 50½ U	40 7 2 †		East 0 37	68½	10	☽ and Spica ♍
♃ — 11	5 15 39	7 33⅛	25 14¼ U	134 15 48 †		West 2 54	69½	10	☽ and ☉ Back Obſ

1775.	Time by Watch K.	Altitude of the ☉'s L. L.	Moon's Altitude.	Distance Moon's L. from Sun's or Star.	Latitude of the Ship S.	Longitude West of Greenwich.	Thermom.	No. of Obs.	Objects.
	H ′ ″	° ′	° ′	° ′ ″	° ′	° ′			
♃ May 11.	7 33 26	57 $11\frac{1}{6}$	55 $32\frac{2}{5}$ U.	39 43 26 †		2 $5\frac{1}{6}$	69	6	☽ and Regulus.
	7 41 21	51 $50\frac{2}{3}$	57 $12\frac{1}{4}$ U.	15 20 4 †		1 $44\frac{1}{4}$	69	6	☽ and Spica ♍.
	7 50 $5\frac{1}{4}$	15 $11\frac{5}{6}$	58 $47\frac{5}{6}$ U.	60 35 46 †		2 $11\frac{2}{3}$	69	6	☽ and Antares.
♀ —— 12.	7 36 50	57 $12\frac{3}{4}$	47 $54\frac{1}{4}$ U.	52 55 24 †		2 14	69	6	☽ and Regulus.
	7 47 57	15 $1\frac{1}{4}$	50 $25\frac{1}{3}$ U.	47 43 4 †		2 $27\frac{2}{5}$	69	6	☽ and Antares.
☉ —— 14.	10 20 59	83 $22\frac{2}{3}$	63 $5\frac{1}{4}$ L.	28 28 30 †		4 20	$70\frac{1}{2}$	6	☽ and Spica ♍.
☉ —— 21.	21 54 41	36 $45\frac{1}{4}$	48 $45\frac{2}{3}$ U.	85 36 58 †		7 $10\frac{1}{4}$	70	6	☽ and ☉: verycloudy.
☽ —— 22.	21 45 30	34 $19\frac{3}{4}$	63 $17\frac{1}{4}$ U.	72 36 45	14 43	8 $23\frac{2}{5}$	$73\frac{1}{2}$	8	☽ and ☉: cloudy.
♂ —— 23.	20 7 $40\frac{1}{2}$	13 $4\frac{7}{8}$	72 $48\frac{2}{3}$ L.	60 12 5	13 45	9 $43\frac{1}{4}$	$72\frac{1}{3}$	10	☽ and ☉.
☿ —— 24	20 31 31	17 $42\frac{7}{8}$	65 $16\frac{2}{3}$ L.	47 25 8	12 $6\frac{1}{2}$	11 21	$72\frac{1}{2}$	10	☽ and ☉.
♃ June 1.	3 40 $56\frac{1}{2}$	43 $45\frac{1}{4}$	63 $12\frac{2}{3}$ L.	36 43 50 ‡		15 $44\frac{2}{5}$	79	10	☽ and ☉.
	8 20 26	57 $5\frac{1}{12}$	20 $40\frac{1}{3}$ L.	37 36 32 †		15 2	78	3	☽ and Regulus.
♀ —— 2.	3 44 47	44 $36\frac{7}{8}$	60 $51\frac{1}{10}$ U.	47 47 43 ‡		17 $36\frac{1}{2}$	$78\frac{1}{2}$	10	☽ and ☉.
	8 15 52	58 $56\frac{1}{6}$	34 $16\frac{3}{8}$ L.	25 39 32 †		17 11	77	6	☽ and Regulus.
♄ —— 3.	3 41 54	46 51	52 $47\frac{1}{6}$ U.	58 48 17 ‡		19 $52\frac{1}{2}$	$78\frac{2}{3}$	3	☽ and ☉.
	3 50 $22\frac{1}{2}$	45 $16\frac{1}{10}$	54 $27\frac{1}{10}$ U.	58 49 0 ‡		19 $44\frac{7}{8}$	$78\frac{2}{3}$	5	☽ and ☉.
	8 28 $42\frac{1}{2}$	67 $11\frac{2}{3}$	44 $43\frac{2}{3}$ L.	67 29 32 ‡		19 $30\frac{1}{2}$	77	5	☽ and Spica ♍.
☉ —— 4	4 33 34	38 $56\frac{9}{10}$	53 $55\frac{1}{4}$ U.	69 58 39 ‡		21 29	79	8	☽ and ☉.
	8 33 35	67 $0\frac{1}{6}$	56 $11\frac{5}{6}$ L.	55 34 22 †		21 $27\frac{3}{4}$	78	6	☽ and Spica ♍.
☽ —— 5.	4 17 24	44 $3\frac{1}{4}$	40 $3\frac{1}{4}$ U.	80 58 26 ‡		23 40	80	8	☽ and ☉.
	8 36 $17\frac{1}{2}$	66 $22\frac{1}{4}$	68 8 L.	43 34 46 †		23 18	79	8	☽ and Spica ♍.
♂ —— 6.	4 45 27	40 $40\frac{1}{2}$	34 54 U.	92 19 4 ‡			81	4	☽ and ☉.
	4 51 $53\frac{1}{2}$	39 $21\frac{5}{8}$	36 $27\frac{1}{2}$ U.	92 21 40 ‡		26 $22\frac{1}{4}$	81	10	☽ and ☉.
	8 54 33	69 $22\frac{1}{3}$	76 $43\frac{1}{4}$ L.	31 23 20 †		25 $49\frac{1}{2}$	$79\frac{1}{2}$	6	☽ and Spica ♍.
☿ —— 7.		40 $31\frac{2}{3}$	25 $8\frac{1}{6}$ U.	103 47 6	4 $51\frac{1}{2}$	28 $8\frac{2}{5}$	81	6	☽ and ☉.
	5 0 46	39 $11\frac{1}{2}$	26 $44\frac{1}{4}$ U.	103 49 56 ‡		28 34	81	8	☽ and ☉.
	9 14 3	73 $9\frac{9}{10}$	83 $53\frac{3}{5}$ U.	19 11 27 †		27 $3\frac{3}{4}$	81	5	☽ and Spica ♍.
♃ —— 8.	5 19 13	37 $32\frac{1}{2}$	18 $48\frac{2}{3}$ U.	115 38 27	3 $45\frac{1}{3}$	29 31	$81\frac{1}{2}$	10	☽ and ☉.
	9 20 50	27 $35\frac{1}{4}$	77 $26\frac{1}{12}$ U.	52 4 4 †		29 $56\frac{1}{2}$	80	6	☽ and Antares.

1775	Time by Watch K. H ′ ″	Altitude of the ☉'s L L ° ′	Moon's Altitude ° ′	Distance of the ☽'s L. from ☉'s or ✱ ° ′ ″	Latitude of the Ship's ° ′	Longitude West of Greenwich ° ′	Thermom.	No. of Obs.	Objects.
♀ June 9	9 30 53	51 37 1/5	65 59 2/5 U	61 51 7 †		31 33¼	81½	7	☽ and Regulus
	9 57 33	34 32 2/5	72 26 1/6 U	38 56 22 †		32 26½	81½	8	☽ and Antares
♄ —— 10.	9 57 42	34 29 1/11	59 28 1/11 U	25 56 12 †		32 7½	81	6	☽ and Antares
	10 7 57	80 57	61 53¼ U	22 51 40 †		32 18½	81	2	☽ and Spica ♍ cloudy
☉ —— 11	12 13 10	59 14 T	72 5 3/5 U	37 24 28 †	North 0 40½	31 54¼	80	8	☽ and Spica ♍
	12 26 54	25 32 1/6 T	73 27 1/6 U	62 27 10 †	0 40 1/6	32 36	80	6	☽ and α Aquilæ.
☽ —— 12.	11 55 45	19 22½	56 16 2/5 U	50 24 18 †		31 48 7/8	81	6	☽ and α Aquilæ
	12 11 32	58 5 3/5	59 13½ U	51 49 0 †		31 19½	81	4	☽ and Spica ♍
☉ —— 18	21 9 30	13 41 7/8	63 24 4/5 U	102 11 53 ‡		30 13 2/5	79½	10	☽ and ☉
☽ —— 19	21 32 47	18 51¼	71 25¼ U	102 57 49	7 54	31 6 1/5	80½	7	☽ and ☉
♂ —— 20	21 25 46	16 8 1/5	82 21 1/10 L	76 11 40	9 10 3/8	32 31 1/4	79½	10	☽ and ☉
♄ July 1	3 43 49	81 16 2/5	55 56¼ U	40 35 38 ‡		41 3 1/4	76½	6	☽ and ☉ Dol Q
	6 6 19	50 8 1/10	76 54¼ U	41 12 54	27 21 1/5	41 1	76	10	☽ and ☉ Ramſ Q
☉ —— 2	5 38 29	56 33 1/10	66 14 9/10 U	52 6 37	28 53	41 2 1/4	75½	10	☽ and ☉
☽ —— 3	5 47 31	54 11½	57 28½ U	63 12 15 ‡		40 11¼	75	6	☽ and ☉
♂ —— 4	5 39 57	55 26 1/5	45 23 1/5 U	74 22 39 ‡		39 42 2/5	75	6	☽ and ☉ Dol Q
	6 1 24	50 47 1/11	49 6 1/5 U	74 30 8 ‡		40 8½	75	8	☽ and ☉ A Bird's Q.
	11 21 52	40 20	37 0½ L	22 8 7 †		39 37	74	6	☽ and Spica ♍
☿ —— 5	7 1 56	37 43 1/6	47 51¼ U	86 15 13 ‡		39 36	77	6	☽ and ☉
	11 16 23	29 12 1/5	42 2½ L	55 41 17 †		39 28½	75	2	☽ and Antares
♃ —— 6	5 49 18	52 53 1/5	24 55 1/8 U	97 32 29	33 12½	39 12½	76½	6	☽ and ☉
	11 17 46	16 21 1/6	44 26 1/6 U	57 30 49 †		38 58	75	6	☽ and Regulus
	11 28 30½	29 42½	43 14 1/5 U	43 6 18 †		39 20	75	6	☽ and Antares
♀ —— 7	6 24 39	45 20 1/5	20 3 1/10 U	109 50 36 ‡		39 9	78½	10	☽ and ☉
	11 6 48	28 20	45 49 1/5 U	39 31 52 †		39 19 2/5	76½	6	☽ and Antares
♄ —— 8	7 9 19	36 13½	15 59½ U	122 39 11	34 14½	39 30½	79½	10	☽ and ☉ Back Obſ

1775.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. ° ′	Moon's Altitude. ° ′	Distance of ☽'s L. from Sun's or Star. ° ′ ″	Latitude of the Ship N. ° ′	Longitude West of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
☿ July 19.		21 36	59 9 2/5 U.	81 1 21	39 9	26 16	72	10	☽ and ☉: very cloudy.
♃ —— 20.		24 16¼	63 01 1/5 U.	68 54 56	39 24¼	24 54	70	8	☽ and ☉.
	23 49 20	54 26 3/5	48 19 3/5 U.	68 4 14 †		25 9¼	71	8	☽ and ☉.
♄ —— 22.	3 12 26¼	65 28 1/5	21 4 U.	55 7 49 ‡		22 25	72 1/2	10	☽ and ☉.
	21 25 11	29 27 2/5	61 20¼ L.	45 35 10	40 32 2/5	20 40	68	10	☽ and ☉.
	23 18 1	50 37 2/5	65 53 7/8 U.	45 2 17	40 39	20 22¼	67 1/2	10	☽ and ☉.
	1 13 24	67 19 1/12	50 53¼ U.	44 26 53 †		20 39 1/5	69	8	☽ and ☉.
☉ —— 23.	2 59 37	64 50¼	31 46 3/5 U.	43 49 25 †		20 32 2/5		8	☽ and ☉.

⁎ The characters annexed to the preceding Observations are explained on p. 178; but it is necessary to add, that those numbers, which the letter T is found against, express the true altitude of the center of the object, found by computation; it having been inconvenient, on some account or other, to observe the altitude of that object at the time. It may be farther remarked, that the dip of the horizon, on board the Resolution, was 4′ 20″, unless expressly said to be otherwise; and that when no Quadrant is mentioned, the observed distance may, in general, be supposed to have been taken with Dollond's Quadrant.

A

J O U R N A L

OF THE

SITUATIONS of his Majeſty's Sloop RESOLUTION each Day at Noon, during her late Voyage on Diſcoveries towards the South;

As ſhewn by the Log, by two Time-keepers, one made by Mr. KENDALL, on Mr. HARRISON's Principles, and the other by Mr. ARNOLD (No. 3.), and alſo by Obſervation.

TOGETHER WITH

The LONGITUDES and LATITUDES of all Lands ſeen in that Voyage, as well as the more remarkable Capes, Head-Lands, and Bays in them.

1772.	Course.	Distance.	Latitude North: By Account.	Latitude North: By Observation.	Longitude West: By Account.	Longitude West: By Watch K.	Longitude West: By A. No. 3.	Longitude West: By Observation.	Longitude West: Corrected.	Swell Sets.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′	° ′	
☽ July 13.				50 5	4 34⅙				4 34⅙	
♂ —— 14.	S. 6¼ W.	49	49 16	49 16 †	4 51				4 46	S. E.
☿ —— 15.	S. 40¼ W.	32	48 52	48 50	5 22	5 18⅓	4 50⅓		5 22½	S. E.
♃ —— 16.	S. 40¼ W.	107	47 29	47 28¾	7 06⅕	6 55⅗	6 20⅓		6 59⅕	S. E.
♀ —— 17.	S. 20¾ W.	64	46 28⅙	46 24½	7 40	7 29⅙	6 53⅞		7 33	E.
♄ —— 18.	N. 45 W.	22¾	46 44½	46 43	8 04	7 36⅙	6 49⅙		7 41	E.
☉ —— 19.	S. 22 W.	85	45 25	45 20	8 50	8 23⅓	7 29⅙		8 27⅕	
	Cape Ortagal.			43 46½					8 32	
☽ —— 20.	S. 1⅓ E.	68	44 12	43 54	8 48				8 28	
♂ —— 21.	S. 59⅓ W.	45	43 31	43 30	9 39⅕				8 59⅕	
☿ —— 22.	South.	1	43 30	43 35	9 44½	9 11⅓	7 53⅓	9 44½	9 15	
♃ —— 23.	S. 36 W.	88	42 24	42 18	10 50	10 27⅓	9 02⅙	10 23½	10 27½	
♀ —— 24.	S. 25⅓ W.	153	40 0	40 02	12 16	11 49⅙	10 15⅙	11 44	11 48½	
♄ —— 25.	S. 25⅓ W.	158	37 40	37 40	13 42½	13 10⅞	11 24⅞	13 10½	13 10¼	
☉ —— 26.	W. 62 S.	145	35 32	35 31¼	15 08	14 28¼	12 34⅙	14 36	14 28	
☽ —— 27.	S. 19⅓ W.	111	33 46¼	33 43	15 54	15 09⅓	13 08⅙	15 22	15 09¼	
♂ —— 28.	S. 48 W.	82	32 48	32 48¼	17 02	16 36⅙	14 26⅙	16 30	16 36	
	Porto Sancto.			32 58¼					16 25¼	
	Fonchial, in Madeira.			32 33¼					17 11¼	
☉ Aug. 2.				31 58					17 02	
☽ —— 3.	S. by W.	135¼	29 45	29 42¼	18 22½	17 29⅓	14 25⅙		17 34¼	
	N. E. end of Palma.			28 48					17 56¼	
	Middle of Palma.			28 36					18 0½	
♂ —— 4.	S. 35 W.	80		28 37.	19 10½	18 24⅙	14 41⅙		19 11½	
☿ —— 5.				27 55¼	19 38¼	18 50⅙		18 52	18 53⅓	
	Hummock, towards the S. end of Ferro.			27 42					18 09¼	
♃ —— 6.	S. 11¼ W.	111	26 06¼	26 07¼	20 02½			19 17	18 34¼	
♀ —— 7.	S. 8¼ W.	128	24 0¼	24 06¼	20 23¼	19 31⅓	15 02⅙	19 45	19 24	
♄ —— 8.	S. 8 W.	120	22 07	22 07	20 41¼	19 59⅙	15 16⅙	20 03⅕	19 52	
☉ —— 9.	S. 19⅔ W.	129	20 05¼	20 05¼	21 28	20 54⅙	15 53⅙	20 50	20 27	
☽ —— 10.	S. 22¼ W.	151¾	17 46	17 48	22 29½	22 06⅙	16 48⅙	21 51¼	21 59	
♂ —— 11.	S. 22 W.	107	16 07¼	16 10¼	23 11	22 48⅞	17 12⅙	22 33	22 41½	
	Bonavista, North Point.			16 13⅗						
	Bonavista, East Point.			16 03⅗					22 44⅕	
	Bonavista, South Point.			15 58:						
	Mayo, North End.			15 15⅕					23 03	
	Mayo, Great Hummock.			15 12⅗					23 04	
	Mayo, South end.			15 11					23 10	
☿ —— 12.	S. 30 W.	80¼	15 0	14 59¼	23 53	23 26⅙	17 31⅙	23 15	23 18	
	Port Praya, in St. Jago.			14 53⅞	24 4	23 36⅞	17 42⅙	23 40	23 29⅕	
♄ —— 15.	S. 34 E.	76⅔	13 49¼	13 49¼	23 9			22 31	22 34¼	
☉ —— 16	S. 11 E.	90	12 21¼	12 19⅙	22 51½	23 0⅙	15 51⅓	22 13⅗	22 52⅕	
☽ —— 17.	S. 59¼ E.	46	11 56	11 54	22 11½			21 35⅗	22 12⅕	
♂ —— 18.	S. 56 E.	53	11 26	11 22⅗	21 26½	21 21⅙	13 34⅙	20 50⅕	21 13⅕	

	1772	Course	Distance	Latitude North By Account	Latitude North By Observation	Longitude West By Account	Longitude West By Watch K	Longitude West By A No 3	Longitude West By Observation	Longitude West Corrected	Swell Sets
		°	Miles.	° ′	′	′	°	° ′	′	°	
☿	Aug 19	S 24 E	48	10 39	10 39	21 07	20 54⅞	13 07⅞	19 12¼	20 47	
♃	—— 20	S 9 E	86¼	9 13⅓	9 13⅓	20 53			18 58¼	20 08	
♀	—— 21	S 30 E	40	8 38⅓	8 37	20 32			18 38½	19 21¼	
♄	—— 22	S 54 E	75	7 53	7 50	19 30½	18 01⅓	9 09⅙	17 36¼	17 53½	
☉	—— 23	S 43 E	84½	6 48¼	6 48⅓	18 29¼	16 49⅙	7 44⅞	16 31¼	16 41¼	
☽	—— 24	S 67 E	74	6 20	6 23¼	17 21	15 27⅙	6 06	14 46	15 19½	
♂	—— 25	S 56 E	53	5 53¼	5 54	16 37			14 02	14 12¼	
☿	—— 26	S E	64	6 08	5 06	15 51			13 16½	13 03¼	
♃	—— 27	S 48 E	81	4 12	4 13	14 51	11 47⅞	1 38	12 16	11 40¼	
♀	—— 28	S 68 E	75	3 45	3 42⅙	13 42	10 17⅝	East 0 07⅞			
♄	—— 29	S 58 E	63	3 08	3 09¼	12 48	8 59⅓	1 35	11 07	10 01¼	
☉	—— 30	S 63 E	71	2 37	2 36	11 44	7 12⅙	3 39⅞	10 13	8 43¼	
☽	—— 31	S 85 E	50	2 31	2 31¼	10 54	5 31⅙	5 42	9 09	6 56¼	
♂	Sept. 1	S 57 W	63	2 05	1 58	11 38	5 40⅞	6 02⅞	8 19	5 15½	
☿	—— 2	S 44 W	49	1 23	1 21	12 12	6 24⅓	5 29	9 03	5 25¼	
♃	—— 3	S 71 W	82	0 56	0 59	13 30			5 35	6 09	
♀	—— 4	S 80 W	66	0 45	0 50½	14 35			6 52½	7 37½	
		The current set N by E 32 feet in a minute					9 09⅙	3 10	7 57½	8 53½	
♄	—— 5	S 78 W	10¼	0 48¼	0 53⅓	14 45	9 12⅙	3 20⅞	9 54	8 56¼	
☉	—— 6	S 64 E	55	0 29⅛	0 33½	13 55½	7 52⅙	4 54⅞	9 0	7 36¼	
☽	—— 7	S 83 E	47	0 28	0 23	13 09			8 22	7 17½	
				South	South	Crossed the Equinoctial				8 12½	
♂	—— 8	S 60 W	71		0 18	14 10¼	9 02⅓	4 52⅓	7 58½	8 47	
☿	—— 9	S 48 W	50	0 51¼	0 59	14 48	9 45⅓	4 25	9 26	9 30	
♃	—— 10	S 54 W	68	1 54	2 0	15 28	10 52⅓	2 52⅞	10 06	10 37	
♀	—— 11	S 33 W	70	2 59	3 05½	16 06¼	12 17⅓	2 08	10 44½	12 02	
♄	—— 12	S 22 W	67	4 08⅙	4 12	16 32	13 16	1 35⅓	11 10	13 0½	
☉	—— 13	S 36 W	73	5 10	5 12	17 14	14 16	0 49⅙	14 21¼	14 21½	
☽	—— 14	S 29 W	92		6 32	17 59½	15 08	0 22	15 13½	15 13¾	
♂	—— 15	S 18 W	109½		8 16¼	18 34½				16 22¼	
☿	—— 16	S 23 W	79	9 29¼	9 29½	19 04½		West		17 25¼	
♃	—— 17				11 04	19 32¼	18 21⅓	1 17⅞	18 26	18 26¼	
♀	—— 18	S 20 W	92		12 31	20 04½	18 37⅓	1 45⅞	17 56¼	18 43¼	
♄	—— 19	S 24 W	102	14 04	14 07	20 46¼	19 35⅓	2 21	18 54½	19 40	
☉	—— 20	S 16 W	91	15 34	15 38	21 12¼	20 12	2 37⅓	20 06¼	20 17	
☽	—— 21	S 21 W	95	17 07	17 14	21 51				20 57½	
♂	—— 22	S 21 W	92½	18 39	18 46¼	22 29½	21 32⅓	3 33⅞	21 19½	21 37½	
☿	—— 23	S 14 W	81	20 05¼	20 12¼	22 52	22 0	3 53	21 47¼	22 05½	
♃	—— 24	S 17 W	80	21 29	21 35¼	23 19¼	22 33⅞	4 0	22 21	22 39¾	
♀	—— 25	S 31 W	87	22 50	22 54½	24 10¼				23 38¼	
♄	—— 26	S 0¼ W	74	24 09	24 17	24 10½	23 43	4 30⅔	23 30½	23 48¼	
☉	—— 27	S 2 W	26	24 43	24 44¼	24 12¼	23 46	4 21	23 33½	23 51	
☽	—— 28	S 23 E	45	25 26¼	25 29	23 52¼				23 36½	
♂	—— 29	S 59 E	80	26 11	26 17¼	22 25¼		East		22 15¼	
☿	—— 30	S 70 E	114	26 55¼	26 58	20 18¼	20 08	10 07¾	19 55½	20 13	

1772.	Course.	Distance.	Latitude South: By Account.	Latitude South: By Observation.	Longitude West: By Account.	Longitude West: By Watch K.	Longitude West: By A. No. 3.	Longitude West: By Observation.	Longitude West: Corrected.	Swell Sets.
	°	Miles.	° ′	° ′	° ′	° ′	° E. ′	° ′	° ′	
♃ Oct. 1.	S. 75 E.	107	27 26	27 28	18 14½	18 09	2 23⅞	17 56¼	18 14	
♀ —— 2.	S. 75½ E.	46¾	27 39½	27 38½	17 29	17 07⅞	3 42⅔	17 01¼	17 13¾	
♄ —— 3.	S. 67½ E.	87	28 11¾	28 09⅓	16 04	15 27⅛	5 31⅓	15 10¼	15 32½	N. E.
☉ —— 4.	S. 67½ E.	135¾	29 01	29 23	13 37	13 08⅞	8 11⅓	13 33	13 14¾	N. E.
☽ —— 5.	S. 88½ E.	80½	29 04	29 0¾	12 0	11 28⅓	10 08⅞	11 50	11 33¾	
♂ —— 6.	S. 12 W.	44⅓	29 44	29 48½	12 12¾	11 45⅛	10 05⅓	11 40	11 50½	
☿ —— 7.	S. 2½ W.	81	31 09½	31 21	12 16½	11 56⅛	10 17⅞	11 51¼	12 01¾	
♃ —— 8.	S. 23½ E.	76	32 30½	32 45½	11 33	11 29⅜	10 56⅞	11 24¼	11 34½	
♀ —— 9.	S. 39 E.	83	33 50⅓	34 0⅛	10 21¼	10 16⅞	12 22⅓	10 11¼	10 22½	
♄ —— 10.	S. 70 E.	84	34 29	34 28½	8 42¼	8 23⅛	14 36⅞	8 18	8 27	
☉ —— 11.	E. by S. ¼ S.	66¾	34 44¾	34 44½	7 24¼	7 05⅞	16 07⅓	7 0¼	7 18½	
☽ —— 12.	E. by S.	34¼	34 51¼	34 51⅛	6 37¼	6 25⅛	16 49⅞	5 55¼	6 25	
♂ —— 13.	S. 62½ E.	42	35 11¼	35 14¼	5 47¼				5 18	
☿ —— 14.	S. 77 E.	89	35 34¾	35 32¼	4 12	3 25⅛	20 0⅓	2 55¼	3 19	
♃ —— 15.	S. 85 E.	85	35 40	35 32¼	2 28¼	1 22⅓	22 46⅓	0 53	1 14	
						East.		East.	East.	
♀ —— 16.	N. 81 E.	135	35 17	35 17	0 15½	1 37⅔	26 01⅞	2 06¾	1 46	
	The water discoloured, as if we were in soundings.									
♄ —— 17.	N. 82 E.	110	35 01⅔	35 0	2 28¾	3 59⅓	28 33⅞	4 41¼	4 09	
☉ —— 18.	N. 80 E.	128	34 37½	34 37½	5 04¾	6 31⅞	31 28⅞	7 14¼	6 43	
☽ —— 19.	N. 71 E.	60	34 21¾	34 19	6 11¾	7 26⅕	32 35⅞	8 08½	7 37½	
♂ —— 20.	S. 29 E.	29	34 44½	34 48⅔	6 29	7 36⅓	32 57⅛	8 02¼	7 47½	
☿ —— 21.	S. 5 E.	55	35 42¾	35 39	6 34¾	7 21⅓	33 07⅞	7 59¾	7 32½	
♃ —— 22.	S. S. E.	76	36 50	36 52¼	7 11¾	8 09⅓	33 58⅛	8 47⅓	8 20½	
♀ —— 23.	S. 65 E.	37½	37 08¼	37 12¾	7 54¾	9 0⅓	35 02⅓	9 38¼	9 11½	
♄ —— 24.	E.N.E. ¼ E.	91	36 42	36 38	9 42	11 0⅓	37 26⅔	11 38¼	11 11¾	
☉ —— 25.	N. 63 E.	136	35 37	35 37	12 12¼				13 23¾	
☽ —— 26.	N. 49 E.	91	34 37½	34 29½	13 37¼	14 18⅞	41 16⅓	14 57	14 30	W.
	Sounded: No ground with 210 fathoms.									
♂ —— 27.	N. 45 E.	79	33 44	33 43	14 44½	15 11⅛	42 25⅓	15 49½	15 22¾	W.
	Sounded: No ground with 200 fathoms.									
☿ —— 28.	N. 89 E.	53	33 43	33 41½	15 46⅓	15 56⅛	43 27⅓	16 35	16 08	
	Sounded: No ground with 220 fathoms.									
♃ —— 29	S. 81 E.	74	33 53½	33 53½	17 14				17 30	
	Cape of Good Hope.		33 57	33 56	18 10½	18 12¼	47 18⅞	18 50	18 23¾	
☽ Nov. 23.	S. 46 W.	58	34 37	34 36½	17 32¼	17 46⅔	17 29¾		17 43½	N.
♂ —— 24.	S. 10 E.	50	35 25	35 23⅓	17 42¼	17 58⅛	17 35		17 55½	N.
☿ —— 25.	S. 20 W.	98	36 55¾	37 14	16 52¼	16 38⅛	16 02¼		16 38½	
♃ —— 26.	S. 11 W.	99	38 51	39 03⅓	16 25¼	15 34⅛	15 02⅓		15 34½	
♀ —— 27.	S. 27 E.	67	40 03	40 05⅛	17 06¼	16 31¼	15 53¾		16 31½	
♄ —— 28.	S. 4 E.	55	40 58	40 58⅓	17 11¼				16 31	
☉ —— 29.	S. 3 E.	69	42 07⅓	42 08	17 16¼	16 30½	15 42¾		16 30⅞	
☽ —— 30.	S. 60 E.	29	42 22½	42 22	17 60¼				17 13½	
♂ Dec. 1.	S. 8 E.	53	43 14½	43 14½	18 0¼				17 32½	

1773	Course	Distance	Latitude South: By Account	Latitude South: Observation	Longitude East: By Account	Longitude East: By Watch K	Longitude East: By A No 3	Longitude East: By Observation	Longitude East: Corrected	Swell sets
	°	Miles	′	°	° ′	°	°	°	° ′	
♀ Feb 12	S 51 L	148	52 56¼	52 48	73 49	70 34¾	69 11¼	70 48	71 01	
♄ —— 13	S 54 E	111	53 53¼	53 54⅔	76 18¼	72 53⅞	71 33¼	73 21¼	73 20½	
☉ —— 14	S 48 E	125¼	55 18	55 18	78 0	73 35⅛	72 19¼	74 3	74 02½	S b E.
☽ —— 15	S 56 E	163	56 49⅓	56 50	82 1¼	79 12⅞	77 54¾	79 40	79 39⅞	
♂ —— 16	S 70 E	75	57 15	57 15¼	84 11¼	81 20¼	80 4	81 47¼	81 47¼	
☿ —— 17	S 44 E	56	57 55¼	57 54⅔	85 24¼				82 38	
♃ —— 18	S 86 E	57	57 59¼	57 57	87 11¼	83 34	82 21	83 49	84 2¼	
♀ —— 19	S 76 E	135	58 29¼	58 30	91 20¼				88 07	S
♄ —— 20	S 81¼ E.	122	58 47¼	58 46¾	95 11¼	91 25	90 15¼	91 38¼	91 54⅛	
☉ —— 21	S. 67 E	29	58 58	59 0	96 3¼	92 20	91 12	92 33⅞	92 50⅛	
☽ —— 22	S 46 L	47¼	59 31	59 35	97 10¾	93 34	92 27	93 47	94 04	
♂ —— 23	S 20 E	90	60 55¼	61 1	98 13¼				94 56	
☿ —— 24	S 46 E.	28	61 20¼	61 20¾	98 55¾				95 29	
♃ —— 25	N 16 E	33	60 49	60 48¾	99 14	95 6¼	94 6¼	95 18⅛	95 37¼	
♀ —— 26	S 76¼ E	81¼	61 7¾	61 8	101 58	97 32	96 33	97 43¼	98 04	
♄ —— 27	N 55 E	77	60 24	60 24	104 27				100 37	
☉ —— 28		136	59 58	59 57¼	108 54¼	104 34½	103 39	104 45¼	105 08	S W
☽ March 1	S 67½ L	94	60 34	60 34	111 48½				108 14	S W
♂ —— 2	S 40 W.	13	60 44	60 44	111 32¼				108 09	
☿ —— 3	N 64 E	65¼	60 15	60 16	113 32	109 45	108 51	109 56¼	110 20¼	
♃ —— 4	S 82 E	105	60 32	60 35	117 2¼				113 55¼	S
♀ —— 5	S 88 E	108	60 34⅓	60 38⅓	120 43	116 53	115 55	117 03¼	117 29⅞	S
♄ —— 6	N 34 E	42	60 3⅓	60 9¼	121 30¾	118 0⅞	117 13¼	118 10¼	118 37⅞	S E.
☉ —— 7	N 86 L	56	59 59½	60 12	123 21⅞				120 25⅞	
☽ —— 8	N 41 F	45	59 25	59 43¾	124 19	120 40¼	119 58	120 49¼	121 19¼	
♂ —— 9	N 48 E	77	58 53¾	58 55¼	126 4½				123 01⅛	
☿ —— 10	N 71 E	154	58 5¼	58 6	130 43¾				127 37¼	S
♃ —— 11	S 85¼ E	91	58 16¼	58 9	133 35¾	129 45½	129 8¼	129 54¼	130 26⅛	S
♀ —— 12	S 48 E.	69	58 55¾	58 55¼	135 14	131 4½	130 25	131 12¼	131 46⅛	S
♄ —— 13	N 76 E	55	58 42¼	58 42	136 57¼	132 41¼	132 4	132 49	133 24	S
☉ —— 14	N 76 E	86	58 21¼	58 21¼	139 37	135 17¼	134 42¼	136 15	136 0¾	
☽ —— 15	S 69 E	119	59 4¼	59 4¼	143 11	138 59¼	138 25¾	139 58¼	139 43½	
♂ —— 16	N 83 E	110	58 50¾	58 51¾	146 42¾	142 9	141 36¼	143 8¼	142 54⅛	E
	Stood to the Northward			58 57					146 25⅛	
☿ —— 17	N 81 E	148	58 28¾	58 28¾	151 32	146 35		147 33¼	147 20⅞	
♃ —— 18	N 30 E	136	56 30¾	56 31	153 39	149 9	148 38¼	150 7¼	149 55⅛	
♀ —— 19	N 36¼ E	144	54 35	54 46	156 10¾				152 11½	E
♄ —— 20	N 49¼ E	164	52 48	53 22½	158 51¼	153 48	153 18¾	154 45¼	154 36	E
☉ —— 21	N 31¼ E.	150	51 14¼	51 14	160 59⅞				156 47½	E
☽ —— 22	N 49¼ E.	123	49 55	49 55¼	163 26⅞	158 27	158 2¼	159 24½	159 17½	
♂ —— 23	N. 40 E,	169¼	47 45¼	47 45¼	166 6¼	160 45⅞	160 23¾	161 42¼	161 30⅞	
☿ —— 24	N 51 E	115	46 32	46 32¾	168 19¼	162 50⅞	162 29¼	163 47⅞	163 42⅞	
♃ —— 25	N 79 E	83	46 17	46 15	170 17¼				165 38	
♀ —— 20	N 32 E,	95	45 45¼	45 45¼	170 44¼				166 4¼	
	Observatory at Dusky Bay			45 47⅒					166 18⅛	

1773.	Course.	Distance.	Latitude South By Account.	Latitude South By Observation.	Longitude East By Account.	Longitude East By Watch K.	Longitude East By A. No. 3.	Longitude East By Observation.	Longitude East Corrected.	Swell from.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′	° ′	
♂ May 11.				45 37					166 41	
☿ —— 12.	N. 29 E.	61	44 38¼	44 36¼	166 34¾				167 17	
♃ —— 13.	N. 34 E.	119	42 59½	42 55¼	168 06⅓				168 57	
♀ —— 14.	N. 51 E.	97¼	41 58¼	41 52¼	169 49½	170 20½	169 54½		170 53¾	
♄ —— 15.	N. 82 E.	46¼	41 13	41 13	170 22½	170 59¼	170 29¾		171 33¾	
☉ —— 16.	N. 52 E.	23	40 59	40 58	170 51				172 17	
Cape Farewell.				40 35½					172 47½	
☽ —— 17.	N. 60 E.	43	40 37½	40 33¼	171 48¼	172 54½	172 29	173 33¼	173 29½	
♂ —— 18.	S. 66 E.	54	40 56	41 3					174 27½	
Q. Charlotte's Sound.				41 6					174 18⁷⁄₁₀	
♂ June 8.				41 56½		174 57½			175 36½	
☿ —— 9.	S. 52 E.	91	42 52½	42 57½ :	176 37				177 32	
♃ —— 10.	S. 52 E.	100½	43 54	43 54¼	178 25¾	179 02¾		179 54	179 41¼	N.W.
♀ —— 11.	S. 52 E.	78½	44 43	44 46	179 52				181 0	N.W.
♄ —— 12.	S. 59½ E.	109	45 38	45 44	182 04				183 24	N.W.
☉ —— 13.	S. 31 E.	43	46 15	46 24	182 36½				184 7½	
☽ —— 14	S. 71½ E.	25¼	46 23	46 35	183 11½				184 53½	N.W.
♂ —— 15.	S. 76 E.	32	46 31	46 46½	183 57¼	185 23½		186 14¾	185 58½	
☿ —— 16.	S. 32 E.	33	46 59¼	46 58	184 23				186 9	S. W.
♃ —— 17.	N. 40 E.	50	46 21	46 18¼	185 10	186 8		186 58½	186 41	S. W.
♀ —— 18.	N. 75 E.	91	45 54½	45 54	187 16½	188 8		188 59½	188 41	
♄ —— 19.	N. 69 E.	85	45 10	45 6	188 59				190 33½	
☉ —— 20	N. 76 E.	114	44 42	44 34	191 35				193 3½	
☽ —— 21.	N. 87 E.	67	44 38½	44 26	193 10	194 17½		195 9	194 48½	N.W.
♂ —— 22.	S. 79 E.	66	44 39	44 35½	194 43	195 54½		196 46	196 25½	
☿ —— 23.	S. 89 E.	50	44 37	44 37½	195 55	197 23		198 14½	197 53	
♃ —— 24.	N. 8 W.	58	43 38	43 37	195 51				197 37	
♀ —— 25.	N. 19 W.	23	43 16	43 14	195 41				197 15	
♄ —— 26.	N. 69 E.	9	43 13	43 9½	195 53	196 47		196 04	197 15	
☉ —— 27.	N. 11 E.	36	42 34	42 34	196 2				197 27	
☽ —— 28.	S. 86 E.	36	42 36	42 35	196 51				198 9½	
♂ —— 29.	S. 54 E.	23	42 49	42 46¼	197 19				198 40½	
☿ —— 30.	S. 67 E.	59	43 9½	43 6	198 38				200 2½	
♃ July 1.	S. 82 E.	71	43 15	43 7½	200 21	201 26½		202 11¾	201 49½	
♀ —— 2.	N. 87 E.	64	43 4	43 2½	201 54	202 52½		203 2½	203 15½	
♄ —— 3.	S. 72 E.	56	43 20	43 18	203 12	204 19¾		204 29¾	204 42¾	
☉ —— 4.	S. 53 E.	51	43 57	43 58	203 56	205 10		205 20	205 32	S. W.
☽ —— 5	N. 62 E.	105	43 9	43 11	206 11	207 12		207 22	207 34	W.
♂ —— 6.	N. 34 E.	76	42 6	42 7½	206 29	208 0		208 10	208 32	W.
☿ —— 7.	N. 33 E.	52	41 23½	41 22	207 8	208 48½		209 10¾	209 10½	
♃ —— 8.	S. 64 E.	83	41 58½	41 59	208 59	210 48¾		211 8½	211 10¾	N.
♀ —— 9.	S. 65 E.	91	42 37	42 39½	210 48	212 55½		213 15	213 17½	
♄ —— 10.	S. 61 E.	132	43 43½	43 36½	213 32	215 27¼		215 47	215 49¼	
☉ —— 11.	S. 87 E.	99½	43 48½	43 34½	215 57	217 43¾		217 49¼	218 5¾	
☽ —— 12.	N. 79 E.	79	43 18½	43 16	217 51	219 42½		219 28½	219 42¼	
♂ —— 13.	N. 79 E.	46	43 7	43 2¼	218 57	220 51¾		221 8	221 13¾	

1773			Course.	Distance	Latitude South		Longitude East				Swell from
					By Account	By Observation	By Account	By Watch K	By Observation	Corrected.	
			°	Miles	° ′	° ′	° ′	° ′	° ′	° ′	
☿	July	14	S 79 E	39	43 9	43 7	220 0			222 14	
♃	——	15	N 4 W	30	42 40	42 36	219 57			222 08	
♀	——	16	N 51 E.	109	41 31	41 24	222 4	223 50½	224 6¾	224 12½	
♄	——	17	N 51 E	196	39 58	39 43½	224 48	226 10¾	226 26½	226 32¾	
☉	——	18	N 6 E	108	37 56	37 56	225 2½	226 22½	226 38¾	226 44½	
☽	——	19	N 8 E	83	36 45¾	36 34¾	225 17	226 43	226 59¾	227 5	
♂	——	20	N 6 W	74	35 23	35 20	225 7½	226 33	226 49¾	226 55	
☿	——	21	N ¼ W	156	32 44¾	32 44	224 48	225 49	226 5¾	226 12	
♃	——	22	N 15 W	100¼	31 7¾	31 5½	224 25	225 13½	225 29¾	225 36½	
♀	——	23	N 7 W	98	29 28	29 22¾	224 10	224 52½	225 8¾	225 15½	
♄	——	24	S 67 W	73	29 50½	29 47	222 52			224 3	
☉	——	25	S 88 W.	26	29 51¾	29 44½	222 22	223 16¾	223 29¾	223 39¾	
☽	——	26	N 37 E	66	28 51½	28 52¼	223 7	224 15½	224 37¾	224 38½	
♂	——	27	N 16 E.	57	27 58	27 53¾	223 26½	224 31½	225 14	224 54½	
☿	——	28	N 73 W	27	27 44	27 43	223 13½	223 58½	224 52½	224 21½	
♃	——	29	N 69 W	43	27 28	27 30½	222 28½	223 11½	224 12	223 34½	
♀	——	30	N 61 E	55	27 4	27 4¾	223 22½	224 13¾	225 14	224 37	
♄	——	31	N 18 E	46	26 20¾	26 19½	223 36½	224 49½	225 23½	225 13	South
☉	Aug	1	N 25 E	85	25 2½	25 2½	224 16¼			225 54	
☽	——	2	N 9 E.	108	23 14½	23 14	224 22½	225 36¾	226 2¼	226 0½	
♂	——	3	N 2 E.	60	22 12½	22 8½	224 24½	225 51½	227 7½	226 15½	
☿	——	4	N 13 E	38	21 30	21 18	224 37	226 2½	227 12¼	226 26¼	
♃	——	5	N 56 E.	70	20 38¼	20 39¼	225 37½	227 30¼	228 40¼	227 54½	
♀	——	6	N 83 E.	60	19 48	19 47½	226 19	227 59¾	229 9¾	228 24	
♄	——	7	N 59 W	97	18 57	18 51	224 59			226 54¼	
☉	——	8	N 70 W	148	18 1	18 4½	222 31	223 52	225 2	224 16½	
☽	——	9	N 79 W	120	17 41½	17 41½	220 27½	221 40	221 57¾	222 4½	
♂	——	10	N 84 W	111	17 30	17 22¾	218 31½	219 35	220 2½	219 59½	
			Resolution Island.			17 23¾				218 15	
☿	——	11	N 86 W	112	17 15	17 17½	216 34½	217 34	218 1½	217 58½	
			Furneaux's Island			17 11				216 53½	
♃	——	12	N 88 W	91	17 18½	17 11	214 59½	215 58	215 58	216 22½	
			Adventure Island			17 6½				215 42¼	
♀	——	13	S 87 W	75	17 15	17 16¾	213 41½	214 41	214 41	215 4	
			Chain Island			17 25				214 29½	
♄	——	14	S 89 W	99	17 18	17 15	211 57½	212 53	212 55	213 18	
			Miatea, or Osnaburg			17 52½				211 54¼	
☉	——	15	S 75 W	96	17 40	17 46½	210 22½	211 14½	211 38¾	211 39½	
☽	——	16	N 87 W	40	17 44	17 44½	209 41½			210 58	
			Oaitipeha Bay			17 46½				210 46½	
♂	——	24				17 42				210 47½	
☿	——	25				17 28½				210 28¾	
			Point Venus.			17 29¾				210 25½	
♃	Sept	2				16 51½					
			Owharre Bay, S. part.			16 44¾				208 52½	
♂	——	7				16 50½					
			Ohamaneno Bay			16 45½				208 20½	

1773.	Course.	Distance.	Latitude South: By Account.	Latitude South: By Observation.	Longitude East: By Account.	Longitude East: By Watch K.	Longitude East: By Observation.	Longitude East: Corrected.	Swell sets.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′	
♀ Sept. 17.				16 51⅓				208 0	
♄ —— 18.	S. 71 W.	75	17 16	17 17	206 59	206 43		206 45	
☉ —— 19.	S. 70 W.	66	17 39½	17 40	205 54	205 38½		205 42½	
☽ —— 20.	S. 69 W.	65	18 3¼	18 3¾	204 49			204 39	
♂ —— 21.	S. 67 W.	51	18 23¼	18 22¾	204 0	203 44¾	204 10⅓	203 52¼	
☿ —— 22.	S. 71 W.	51	18 39¼	18 41	203 9	202 46¾	203 12¾	202 56¾	
♃ —— 23.	S. 70 W.	80½	19 08¼	19 8¾	201 49	201 12½	201 38½	201 24½	
	Hervey's Islands.			19 17				201 12	
♀ —— 24.	S. 72 W.	71	19 29¼	19 28⅔	200 41⅓	199 33	199 54⅓	199 47	
♄ —— 25.	S. 76 W.	101	19 53⅓	19 51¾	198 56	197 36⅓	198 18¾	197 52⅓	
☉ —— 26.	S. 73 W.	109	20 23¼	20 25⅓	197 5	195 33⅓	196 16	195 51½	
☽ —— 27.	S. 79 W.	120	20 46	20 40	195 1	193 45	194 27⅓	194 5	
♂ —— 28.	S. 81 W.	136	21 1	21 3½	192 34	191 5	191 47⅓	191 27	
☿ —— 29.	S. 76 W.	111	21 30½	21 30¾	190 39	189 42⅔	190 30	190 6⅔	
♃ —— 30.	N. 82 W.	153	21 8¼	21 11¾	188 1	187 25¼	188 12¾	187 51¾	
♀ Oct. 1.	S. 83 W.	87	21 21¼	21 21⅔	186 29	185 47	186 34⅓	186 15	
	English Road, Eaoowe.			21 20½				185 26	
	Van Diemen's Road, Tongatabu.			21 4¾				185 3⅔	
♀ —— 8.	S. 18 W.	61	22 3¼	22 4[illegible]	184 44	184 8½	184 41⅔	184 40.	
♄ —— 9.	S. 50 E.	40	22 29½	22 28	185 17	184 51⅓	185 24⅔	185 22⅔	
☉ —— 10.	S. 74 W.	61	22 44¼	22 45½	184 13	183 29¼	183 59	184 0	
	Pylestaart Island.			22 23½				184 12	
☽ —— 11.	S. 42 W.	88	23 50¼	23 49½	183 8	182 10½	182 21	182 40½	
♂ —— 12.	S. 19 W.	110	25 34	25 36½	182 28	181 16	181 44½	181 45½	
☿ —— 13.	S. 13 W.	100	27 13½	27 13½	182 3	180 25½	180 54¼	180 54¾	
♃ —— 14.	S. 12 W.	97	28 47½	28 46	181 40	179 45¼	180 13¼	180 13¾	
♀ —— 15.	S. 9 W.	93	30 19	30 16	181 24	179 30½	179 59	179 58½	
♄ —— 16.	S. 8 W.	89	31 41⅓	31 41¾	181 10	179 27¼	179 55¼	179 55¼	
☉ —— 17.	S. 1½ E.	63	32 42¼	32 41¾	181 11½	179 26½	179 55	179 54	
☽ —— 18.	S. 11 E.	83	34 3¼	33 46¾	181 27	179 48½	180 17	180 15½	
♂ —— 19.	S. 7 E.	130	35 57	35 58	181 46	179 47½	180 16	180 14	
☿ —— 20.	S. 14 W.	115	37 49¼	37 47¾	181 11½	179 33⅓	179 46½	179 59½	
♃ —— 21.	S. 28 W.	88	38 59¼	39 6	180 12½	178 29⅔	178 30½	178 55¾	
	The Shambles off Table-Head,			39 20				178 20¾	
	Portland.			39 25				178 12	
♀ —— 22.	S. 50 W.	109	40 15¼	40 14	178 23½	176 45½	176 46½	177 11	
	Cape Turnagain.			40 28				176 56	
♄ —— 23.	S. 64 W.	33	40 28¼	40 28¼	177 44	176 36	176 35¾	177 2	
☉ —— 24.	S. 26 W.	78	41 38¼	41 39	176 58½	176 12½	176 12¼	176 38½	
☽ —— 25.	S. 38 W.	55	42 21¼	42 23	176 12½			175 54	
♂ —— 26	S. 65 W.	15	42 29	42 27	175 59½	175 16¾	175 16½	175 42¾	
☿ —— 27.	N. 10 W.	52	41 36	41 35¾	175 47½	175 25⅓	175 25	175 51⅓	
♃ —— 28.	S. 13 W.	43	42 17	42 16½	175 34¾	175 16¼	175 16	176 42¾	
♀ —— 29.	N. 24 E.	40	41 39	41 45½	175 52¾	175 46¾	175 46½	176 12¾	

1773			Course	Distance. Miles.	Latitude South By Account ° '	Latitude South By Observation ° '	Longitude East By Account ° '	Longitude East By Watch K ° '	Longitude East By Observation ° '	Longitude East Corrected ° '	Swell from.
♄	Oct.	30	S. 64 W.	73	42 17	42 13½	174 24½			174 55	
☉	—	31	S 68 E.	19	42 23½	42 19	174 46½			175 26¼	
☽	Nov	1	N 54 W	48	41 51	41 51	173 55½			174 45	
♂	—	2								174 54	
Queen Charlotte's Sound						41 5 9/10				174 18	
♄	—	27	S 14 E.	107	43 26½	43 26½	175 24	175 55½		175 56¾	N E
☉	—	28	S 20 E	56	44 19	44 19	175 50½	176 32½		176 34½	E N E
☽	—	29	S 14 E.	15	44 35½	44 36½	175 56½	176 57½		176 0	N E
♂	—	30	S 45 E	107	45 51½	45 49	177 43½	178 23½		178 28¾	N E
☿	Dec.	1	S 38 E.	93	47 2½	47 4½	179 6½	179 27		179 33½	N E
♃	—	2	S 35 E	93	48 19	48 21⅞	180 28			180 56	N E
♀	—	3	S 27 E	39	48 56	48 56½	180 54			181 23	N E
♄	—	4	S 17 W	68	50 1	50 1	180 23½			180 53½	N E
☉	—	5	S 70 W	44	50 16	50 14½	179 19½	179 38	180 4	179 50	N E.
☽	—	6	S 6 W	31	50 45	50 54	179 14½	179 33⅓	179 58½	179 46½	N E
About eight in the evening, passed directly over the antipodes to London											N E.
♂	—	7	S 9 E	131	53 6½	53 7	179 48½	180 18	180 43½	180 33	N E
☿	—	8	S 6 E.	160	55 47	55 39	180 20½	181 26	181 54	181 42¼	N E
♃	—	9	S 6 E	126	57 45	58 2	180 44	182 4½	182 21⅔	182 22½	N E
♀	—	10	S 43 E	98	59 9½	59 4	182 44			184 56⅓	N E
♄	—	11	S 27 E.	116	60 54	60 44¾	184 15	186 53⅓	187 10⅔	187 14¾	N E
☉	—	12	S 30 E	143	62 48½	62 46	186 44	189 28⅔	189 45⅓	189 51	N E
☽	—	13	S. 52 E	92	63 42¾	63 39	189 29			193 19	N E
♂	—	14	S 52 E	129	65 2½	64 55	192 14	196 37½	196 54½	197 3	N E
☿	—	15	S 60 E	100	65 46	65 42	195 46			200 38	N E.
♃	—	16	N 43 E.	28	64 24	64 16	198 7			203 4	
♀	—	17	S 66 E	51	64 36	64 35	199 57	204 30	204 47	204 58	
♄	—	18	N 83 E	87	64 25½	64 27	203 12			208 27	
☉	—	19	S 75 E	73	64 44½	64 47¾	205 59	211 0	210 27	211 27½	
☽	—	20	S 23 E	75	65 56	65 58	207 10	211 47⅓	211 14½	212 11⅓	
♂	—	21	S. 34 E.	60	66 47	66 48	208 34			213 54½	
☿	—	22	S 69 E	104	67 25	67 26¾	212 50			218 26½	
♃	—	23	N 83 E.	93	67 15	67 12½	216 52	222 19	221 46	222 45	
♀	—	24	S 58½ W	13	67 18	67 17	216 27½	222 41½	222 15	223 7	
♄	—	25	N 49 E	83	66 24	66 21	219 9½			225 9½	
☉	—	26	N 56 E	14	66 13	66 14	219 39	225 54½	225 28½	226 19½	
☽	—	27	N 80 E	20	65 53	65 53½	220 9	226 38⅓	226 12⅔	227 3	
♂	—	28	N. 9 W	92	64 23	64 18	219 47			226 19	
☿	—	29	N ½ E	111	62 32	62 23	220 13	225 55	225 29	226 19	N
♃	—	30	N 30 W	84½	61 19⅔	61 5	218 49			225 22	
♀	—	31	N. 11 W.	83	59 59	59 40	218 11	224 47⅓	224 21⅔	225 11	N E.
1774											
♄	Jan	1	N 24 W	30	59 13	59 11	217 46	223 47⅔	223 21½	224 10½	
☉	—	2	N 22 W	71	58 5	57 58	216 51	222 54	222 28	223 16⅔	
☽	—	3	N 50½ W	125	56 38	56 46¼	214 11	220 25	219 59½	220 48	
♂	—	4	N 16½ E	106	55 7	54 55½	215 8			221 22½	E.

	1774.	Course.	Distance.	Latitude South By Account.	Latitude South By Observation.	Longitude East By Account.	Longitude East By Watch K.	Longitude East By Observation.	Longitude East Corrected.	Swell from.
		°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′	
☿	Jan. 5.	N. 37 E.	94	53 40¼	53 43½	216 41	222 11½	221 45½	222 33	E.
♃	—— 6.	N. 29 E.	89	52 25	51 69¾	218 17	224 24	225 0½	224 45½	E.
♀	—— 7.	N. 42 E.	113	50 35	50 36¾	220 21	226 35¼	226 55¼	226 56¾	E.
♄	—— 8.	N. 42 E.	111	49 14	49 7½	222 25	228 52½	228 56¼	229 13½	E.
☉	—— 9.	N. 74 E.	161	48 23¼	48 17	226 42	232 44¼	233 13¼	233 5	E.
☽	—— 10.	N. 84½ E.	97	48 7½	48 7¾	229 6	235 2	235 30½	235 22	
♂	—— 11.	N. 42 E.	111	47 52¼	47 51¾	231 47	237 32½	238 0½	237 52½	
☿	—— 12.	S. 45 E.	145	49 34	49 34	234 22	240 3¼	240 32¼	240 23½	
♃	—— 13.	S. 21 E.	159	52 3	52 1¾	235 52			241 52½	
♀	—— 14.	S. 24 W.	125	53 56	53 55¾	234 28	240 8½	240 37	140 27½	
♄	—— 15.	S. 28 W.	154	56 11	56 5	232 22			238 1	S. E.
☉	—— 16.	S. 74 E.	89		56 18⅓	234 50	240 27	240 52¼	240 46⅓	
☽	—— 17	S. 16 E.	147	58 39	58 34	235 57	241 37½	242 3½	241 57½	
♂	—— 18.	S. 15 E.	147	60 55¼	60 54¾	237 17	242 59½	243 0½	243 19¼	
☿	—— 19	S. 7 E.	57	61 52	61 50	237 32			243 28¼	E. S. E.
♃	—— 20.	S. 21 E.	49	62 37	62 34¾	238 9	243 38¼	243 43¼	243 59¼	S. E.
♀	—— 21.	N. 6 E.	7	62 27¼	62 26¾	238 11	243 25½	243 30½	243 46¼	
♄	—— 22.	N. 77 E.	116	61 59	61 56	242 18			247 34¼	
☉	—— 23.	S. 81 E.	80	62 12	62 22	245 0	249 35¼	249 40½	149 57¼	N. N. E.
☽	—— 24.	S. 43½ E.	104	63 37½	63 37	247 37½			252 12	
♂	—— 25	S. b W. ¼ W.	110¼	65 25	65 24⅘	246 35	250 25	250 30	250 47½	
☿	—— 26.	S. 2 W.	63	66 28¼	66 35½	246 29	250 17¼	250 22¼	250 40¼	S. W.
♃	—— 27.	S. 12 E.	79	67 53	67 51¾	247 11			251 30	S. W.
♀	—— 28.	S. 2 E.	100	69 31	69 30¼	247 20½			251 47½	
♄	—— 29.	S. 34 E.	34	69 59¼	69 58¾	248 14	252 24	252 29	252 48	
		Tacked from the ice.			71 7¼				253 1¼	
☉	—— 30.	S. 17 E.	53	70 45	70 46	248 54			253 29	
☽	—— 31.	N. 5 E.	95	69 11	69 13	249 18			253 53	
♂	Feb. 1.	N. 21 E.	74	68 3	68 1	250 34	254 43½	254 48½	255 10½	S. W.
☿	—— 2.	N. 33 E.	62	67 9	67 7½	252 5			256 37	
♃	—— 3	N. 50 E.	65	66 25¼	66 25	254 9	258 26	258 31	258 36	
♀	—— 4	N. 32 E.	44	65 47¼	65 41¼	255 15	259 47½	260 11¾	260 18½	
♄	—— 5.	N. 5½ W.	99	64 4¼	64 5	254 53	259 36	260 0¼	260 9	S.
☉	—— 6.	N. 42 E.	17	63 52	63 53⅞	255 14			261 11¼	
☽	—— 7.	N. 2 E.	157¾	61 17	61 5¼	255 27	261 30	261 54¼	262 6	
♂	—— 8.	North.	177	58 8¼	58 4	255 27			262 29	
☿	—— 9.	N. ¼ W.	165	55 41¼	55 42	255 1			262 26	
♃	—— 10.	N. ¼ E.	127	53 34	53 36⅔	255 5	262 14	262 38¼	262 54¼	
♀	—— 11.	N. 31 E.	134	51 42¼	51 37½	256 59	263 52	264 16¼	264 34	
♄	—— 12	N. ¼ E.	81	50 16¼	50 15	257 6	263 54¼	264 19	264 38¼	
☉	—— 13.	West.	32	50 16¼	50 12¾	256 34	263 15½	263 39¼	264 0¼	
☽	—— 14.	N. 13 E.	43	49 32	49 29	256 49	263 21¼	263 46	264 8¼	N. E.
♂	—— 15.	N. 33 W.	36	49 2	48 55	256 21	262 36	263 0¼	263 24	
☿	—— 16.	N. 44½ E.	100	47 42	47 55	258 7			265 3	
♃	—— 17.	N. 28 E.	94	46 22	46 17½	259 16	265 18⅔	265 42½	266 9½	
♀	—— 18	N. 3 W.	123	44 15	44 10¼	259 7	265 13¼	266 1¼	266 5¼	

1774	Course	Distance.	Latitude South: By Account	Latitude South: By Observation	Longitude East: By Account	Longitude East: By Watch K.	Longitude East: By Observation	Longitude East: Corrected	Swell sets
		Miles	° ′	° ′	° ′	° ′	° ′	° ′	
♄ Feb 19	N 22 W	137	42 3	42 5¼	257 53	264 3¼	264 7	264 57	
☉ —— 20	N 16½ E	124	40 7¼	39 59¼	258 43	264 53	264 54¼	265 49	
☽ —— 21	N 19 E	130	37 56	37 53¼	259 38	265 26	266 17	266 23	
♂ —— 22	N 22 W.	109	36 13	36 10¼	258 48	264 38	265 29	265 36	
☿ —— 23	S 71 W	107	36 45	36 41¼	256 44	262 26¼	263 18	263 25	
♃ —— 24	S 62 W	98	37 27	37 27½	254 54	260 42	262 30¼	261 42	
♀ —— 25	S. 78 W	124	37 52¼	37 53½	252 24	258 25¼	260 14	259 20¼	
♄ —— 26	N 36 W	92	36 40	36 39¼	251 24	257 29¼	259 17	258 31	
☉ —— 27	N 11 W	101	35 0¼	34 54	250 59	256 52¼	256 41	257 55¼	
☽ —— 28	N 5 W	101	33 14	33 9	250 48	256 37	257 44	257 40	
♂ March 1	N 8 W	55	32 15	32 17	250 39	256 23¼	257 52¼	257 26¼	
☿ —— 2	N 11 E	56	31 22¼	31 13½	250 55	256 41	258 2¼	257 45¼	
♃ —— 3	N 44 E	44	30 42½	30 36¼	251 31	257 22¼	258 29	258 26¼	
♀ —— 4	N 39 E	52	29 56	29 58½	252 7	258 5½	259 13	259 10¼	
♄ —— 5	N 55 E.	24	29 44¼	29 44½	252 29	258 21	259 1	259 27	N E
☉ —— 6	N 51 W	36	29 21	29 21½	251 57	257 52	258 55¼	258 58	
☽ —— 7	N 40 W	81	28 19¼	28 19¼	250 59	256 44	257 54¼	257 51	
♂ —— 8	N 50 W	121	27 1	27 4	249 15	254 56¼	256 0¼	256 1¼	
☿ —— 9	S 89 W	106	27 6	27 6¼	247 16	252 59	254 35	254 7	
♃ —— 10	S 89 W	97	27 8¼	27 9¼	245 28	250 57¼	252 33¼	252 6	
♀ —— 11	S 88 W	52	27 11¼	27 10⅞	244 30	249 48¼	251 23¼	250 57¾	
♄ —— 12	S 64 W.	10	27 15¼	27 17¼	244 20				
Easter Island				27 8½				250 48	
♃ —— 17	N 65 W	48	26 47¼	26 48	243 10	248 19	249 2¼	250 8	
♀ —— 18	N 45 W	60	26 5	26 4¼	242 23	247 29	248 55¼	249 33	
♄ —— 19	N 24 W	83	24 49¼	24 51¼	241 46	247 1¼	248 5¼	248 44	
☉ —— 20	N 13 W	113	23 1¼	23 1½	241 18	246 14	247 18	248 14	
☽ —— 12	N 20 W	126	21 2¼	21 3½	240 31	245 24	246 24	247 32	
♂ —— 22	N 24 W	111	19 21¼	19 21	239 43	244 22	245 20¼	246 42	
☿ —— 23	N 41 W.	92	18 11	18 9¼	238 37	243 2⅛	244 0⅛	245 41	
♃ —— 24	N 43 W	78	17 13	17 6½	237 34	241 56⅞	242 54⅞	244 22⅛	
♀ —— 25	N 45 W	103	15 54	16 1¼	236 18	240 39⅞	241 3⅞	243 17⅞	
♄ —— 26	N 45 W	112	14 42	14 45¼	234 55	239 13¼	240 11¾	242 2	
☉ —— 27	N 45 W	122	13 19¼	13 13¼	233 20	237 38¼	238 36¾	240 37	
☽ —— 28	N 45 W	123½	11 45¼	11 45½	231 50	236 2¼	237 0¼	239 3¼	
♂ —— 29	N 45 W	125	10 21¼	10 20¼	230 22	234 31	236 10¼	237 28	
☿ —— 30	N 65 W	121	9 29	9 22½	228 19	232 35¼	234 4	235 59	
♃ —— 31	N 68 W	112½	9 18¼	9 17¼	226 25	230 16¼	232 1¼	233 54	
♀ April 1	S 82 W	102	9 31¼	9 29½	224 43	228 21¼	229 51	231 47	
♄ —— 2	S 89 W,	90	9 31½	9 28⅛	223 11	226 32	228 24⅛	229 53	
☉ —— 3	S 88 W	84	9 31⅛	9 32½	221 46	224 49⅛	226 57¾	228 6	
☽ —— 4	S 89 W	96	9 33¼	9 34¼	220 08	223 1¼	225 2½	226 24⅞	
♂ —— 5	S 89 W	84	9 34	9 33½	218 43	221 21¼	223 21	224 38¼	
☿ —— 6	N 80 W,	71	9 21	9 19¼	217 32	220 2¼	221 57	223 0	
♃ —— 7	S 54 W	47	9 47½	9 47½	216 52	219 12	221 16	221 42¼	
Hood's Island,				9 26				220 54¼	
								221 8	

1774.		Course. °	Dist. Miles.	Latitude South By Account. ° ′	Latitude South By Observation. ° ′	Longitude East By Account. ° ′	Longitude East By Watch K. ° ′	Longitude East By Observation. ° ′	Longitude East Corrected. ° ′	Swell sets.
		Onateayo.			9 58				221 9	
		Ohevahoa.			9 40½				220 58½	
		Harbour in Ohitahoo.			9 55½				220 51½	
		La Magdalena.			10 25½				221 11	
☿	April 13.	S. 37 W.	68	10 50½	10 55¼	215 51½	218 0	220 3½	219 54¼	
♃	—— 14.	S. 31 W.	102	12 23	12 24¼	214 56½	217 2	219 5½	218 57½	
♀	—— 15.	S. 49 W.	116	13 39½	13 41½	213 25½	215 33½	217 18¼	217 30¼	
♄	—— 16.	S. 58 W.	68	14 17	14 17½	212 25½	214 18¼	216 3½	216 16¼	
☉	—— 17.	S. 81 W.	65	14 28	14 26½	211 18½	213 2½	215 23	215 1¼	
		Isle Taoukaa.			14 30½				214 50½	
		The island by it.			14 38				214 39	
☽	—— 18.	S. 45½ W.	35	14 54½	14 56½	210 53½	212 29¼	214 24	214 30½	
♂	—— 19.	S. 46 W.	54	15 35½	15 38¼	210 8½	211 28½	213 28	213 30½	
		Palliser's Isles			15 38¼				213 29¼	
☿	—— 20.	S. 59 W.	51	16 4¼	16 4½	209 21½	210 31	212 30½	212 34½	
♃	—— 21.	S. 40 W.	116	17 33¼	17 32½	208 3½	208 55½	210 55½	211 0	
		Point Venus.			17 29½				210 23¼	
		Owharre Bay, N. part.			16 42¼				208 50½	
		Ohamaneno Bay			16 45½				208 23½	
		Bolabola.			16 32½				208 8½	
		Maurua.			16 25½				207 27½	
☉	June 5.	S. 88 W.	54	16 46¼	16 48	207 28	207 19½	207 10½	207 27	
☽	—— 6.	S. 88 W.	79	16 50	16 49½	206 5	206 2½	205 52½	206 0½	
		Howe's Island.			16 46½				205 53½	
♂	—— 7.	S. 75 W.	76	17 9½	17 9½	204 47	204 46	204 36½	204 49	
☿	—— 8.	S. 52 W.	40	17 33¼	17 32½	204 14	204 6¼	203 57	204 11½	
♃	—— 9.	S. 85 W.	43	17 36¼	17 38½	203 29	203 28½	203 19½	203 35¼	
♀	—— 10.	S. 79 W.	46	17 47½	17 48	202 41	202 48½	202 39¼	202 57½	
♄	—— 11.	S. 78 W.	41	17 56¼	17 55¼	201 58	202 7½	201 58½	202 18½	
☉	—— 12.	S. 74 W.	75	18 16	18 10½	200 43			200 56	
☽	—— 13.	S. 71 W.	118	18 49	18 45½	198 45	198 34¼	198 12½	198 50	
♂	—— 14.	N. 83 W.	74	18 36½	18 35½	197 27	197 7	197 58¼	197 25	
☿	—— 15.	N. 58 W.	13	18 29	18 27½	197 15	196 59¼	197 58¼	197 20	
♃	—— 16.	N. 71 W.	36	18 15½	18 11½	196 40	196 35½	197 49½	196 58¼	
		Palmerston's Island.			18 0				197 3	
♀	—— 17.	N. 84 W.	69	18 4½	18 2¼	195 28	195 20½	196 10½	195 44¼	
♄	—— 18.	S. 82 W.	77	18 14	18 12	194 8	193 54½	194 45½	194 21	
☉	—— 19.	S. 79 W.	80	18 29½	18 25	192 45	192 20½	192 35¼	192 49	
☽	—— 20.	S. 77 W.	104	18 48½	18 49¼	90 58	190 37½	190 47½	191 9	
♂	—— 21.	S. 70 W.	43	19 4	18 57½	190 16	189 54	190 28½	190 26	
		Savage Island.			19 2¼				190 29¼	
☿	—— 22.	S. 59 W.	48	19 21¼	19 23½	189 32	189 15½	189 57½	189 48½	
♃	—— 23.	S. 67½ W.	89	19 57	19 49½	188 5	187 52	188 53½	188 25	
♀	—— 24.	S. 76 W.	107	20 14¼	20 24¼	186 14	185 59	187 0½	186 32	
♄	—— 25.	N. 87 W.	25	20 23¼	20 20	185 48	185 23½	186 24½	185 56½	
☉	—— 26.	S. 53 W.	15	20 28	20 23¼	185 35	185 0¼	186 1¼	185 32¼	

1774	Courſ	Diſtance Miles	Latitude South By Account	Latitude South By Obſervation	Longitude Eaſt By Account	Longitude Eaſt By Watch	Longitude Eaſt By Obſervation	Longitude Eaſt Corrected	Sw[illegible]
	Iſland Tellefageo			20 31¼				185 30¾	The Friendly Iſles
	Tonamai			20 28				185 28	
	Commango			20 19½				185 31	
	Commango ette			20 18½				185 32	
	Annamocka			20 16				185 29½	
	Annamocka ette			20 17½				185 27	
	Aggoau			19 39¼				185 17	
	Mattafoa			19 44½				185 13	
	Others extend from			19 37½				185 10	
	to			20 32½				185 50	
☿ June 29	North	5	20 10	20 5⅝	185 32½		18[illegible] 2⅞	185 31	
♃ — 30	N 40 W	24	19 52	19 51¾	185 14½		184 33	184 33	
♀ July 1	S 88 W	85	19 55¼	19 54½	183 44	183 26⅝	182 52	183 58	N N L
♄ — 2	S 84 W	82	20 2¾	20 3½	182 17	181 48	181 52½	182 20	
☉ — 3	N 40 W	19	19 48¼	19 47	182 4½	181 31⅛	181 56	182 3	
	Turtle Iſland			19 48¾				182 3	
	Reef off it			19 53¾				181 58	
☽ — 4	S 48 W	29	20 6	20 4⅝	181 41½	181 1⅞	181 48⅞	181 33¼	
♂ — 5	S 62 W	74	20 40	20 28½	180 30½	179 52½	180 33¾	180 2¼	
☿ — 6	S [illegible]2 W	63	20 58½	20 55½	179 27	178 42½	179 23⅞	179 14	
♃ — 7	N 86 W	54	20 51	20 50½	178 30	177 50	178 31⅞	178 21¼	
♀ — 8	N 77 W	65	20 36½	20 36½	177 23	176 44	177 25	177 15⅝	
♄ — 9	N 71 W	59		20 23½	176 23	175 41	176 22⅛	176 1	
☉ — 10	N 47 W	47	19 51	19 53½	175 46	174 57½	175 39	175 29	
☽ — 11	N 24 W	96	18 26	18 26½	175 4	174 25½	175 7	174 57	
♂ — 12	N 52 W	85	17 19	17 20½	174 8	173 37½	174 18⅞	174 9	
☿ — 13	N 41 W	70	16 27½	16 25½	173 20	172 51⅞	173 28	173 23⅞	
♃ — 14	N 45 W	60	15 43	15 39½	172 35	172 0½	172 24	172 32	
♀ — 15	N 65 W	69	15 10¼	15 9½	171 30	170 47⅞	171 26¼	171 20⅛	
♄ — 16	S 89 W	121	15 11¼	15 5	169 25	168 40	169 18⅞	169 13¼	
☉ — 17	N 81 W	28	15 0½	14 59¼	168 56			168 42	
☽ — 18	S 83 W	34	15 4⅝	15 1½	168 21	167 31⅞	168 10¼	168 [illegible]	
♂ — 19	S 8 W	24	15 24½	15 12½	168 18	167 37½	168 16	168 11	
	Aurora, North End			14 52				168 13	
	Aurora, South End			15 24				168 20¼	
	Leper's Iſland, N E End			15 16¾				168 10¾	
	Leper's Iſland, S W End			15 30				167 45½	
☿ — 20	S 6[illegible] E	15	15 18½	15 28⅞	168 32	167 41⅛	168 24¼	168 15½	
♃ — 21	S 22 W	39	16 4¾	16 17¼	168 12	167 27	168 9	168 1¾	
	Whitſunside Iſle, N End			15 28½				168 21	
	Whitſunside Iſle, S End			16 0½				168 19	
	Ambrym, N E End			16 4				168 21¼	
	Ambrym, W End			16 15				168 3	
	Sandwich Harbour			16 25½				167 53	
— 3				16 24½		167 21¼	168 18¾	167 57¼	
	Cape Sandwich			16 28				167 59	
	Maſkelyne's Iſlands,			16 30				167 58½	
				16 33¾				168 1½	

1774.	Course.	Distance.	Latitude South: By Account.	Latitude South: By Observation.	Longitude East: By Account.	Longitude East: By Watch K.	Longitude East: By Observation.	Longitude East: Corrected.	Swell fun.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′	
	Maskelyne's Islands,			16 32½				167 59¼	
				16 33				167 57¾	
	Paoom.			16 30				168 28¼	
☉ July 24.	S. 28 E.	26	16 48	16 59	168 27			168 26¾	
	Apæ, South East End.			16 53½				168 37	
	Apæ, North West End.			16 39				168 18	
	Three-Hill Island.			17 4				168 35	
	Its western Hummock.			17 5				168 32	
	Reef of its West End.			17 8½				168 28¼	
	Shepherd's Islands,			16 56				168 41¼	
				16 52				168 42	
				16 58				168 43¼	
				17 1				168 42	
				17 1½				168 43½	
				17 3½				168 43	
	One-Hill Island.			17 7½				168 36	
	Two-Hill Island.			17 13				168 35¼	
	The Monument.			17 14¾				168 38¾	
☽ —— 25.	S. 26 E.	31	17 15½	17 18⅛	168 42	168 1⅞	168 53⅞	168 37⅓	
♂ —— 26.	S. 38 E.	14	17 29	17 31	168 53	168 0	168 52	168 41	
	Sandwich's Island from			17 29				168 20½	
				17 53				168 45¾	
	Hinchinbrook Island.			17 25				168 38	
	Montagu Island.			17 26				168 31½	
☿ —— 27.	S. 58 E.	55	18 0½	18 0¼	169 42	168 42	169 42¼	169 19¾	
♃ —— 28.	S. 56 E.	47	18 26¾	18 24⅞	170 22	169 9⅛	169 30¼	169 47¼	
♀ —— 29.	S. 50 E.	14	18 34½	18 30⅓	170 34	169 28	170 15¼	170 6½	
♄ —— 30.	S. 72 W.	34	18 41	18 33½	170 0	169 1¼	169 49¼	169 42⅔	
☉ —— 31.	N. 27 W.	13	18 22¼	18 21	169 53	168 55⅓	169 20⅓	169 34⅔	
☽ Aug. 1.	S. 46 W.	33	18 44	18 32½	169 28	168 33½	169 0	169 13⅔	
♂ —— 2.	S. 50 W.	15	18 46½	18 46⅛	169 16	168 26	169 10¼	169 2⅓	
	Traitor's Head.			18 43½				169 20¼	
	Small Island off it.			18 41				169 26	
	Erramanga from			18 36½				169 9	
				18 56½				169 28	
☿ —— 3.	N. 70 E.	22	18 38	18 36½	169 38	168 47⅞	169 17¼	169 18¼	
	Tanna from			19 16½				169 21	
				19 38½				169 43	
	Port Resolution, in Tanna.			19 32⅓				169 44⅔	
	Immer.			19 16				169 46	
	Irraname.			19 31				170 21	
	Enatum.			20 10				170 4	
♄ —— 20.				19 24				169 46	
☉ —— 21.	S. 79 E.	32	19 32½	19 33⅔	170 11	169 18¾	170 29	170 4⅔	
☽ —— 22.	N. 50 W.	97	18 19⅓	18 18⅕	169 4	168 0⅞	169 11⅕	168 47⅓	
♂ —— 23.	N. 28 W.	133	16 21	16 23⅙	167 59	166 49⅛	168 0⅛	167 35⅘	

1774.	Course	Distance	Latitude South By Account	Latitude South By Observation	Longitude East By Account	Longitude East By Watch K	Longitude East By Observation	Longitude East Corrected	Swell sets
	°	Miles		°	°		° ′		
	Mallicola from			15 53¼ }					
				16 38 }				167 19½	
	South Cape			16 38				167 59	
	South West Cape			16 31				167 42½	
	St. Bartholemew's Island			15 42				167 36½	
☿ Aug. 24	N 11 E	70	15 16½	15 23½	168 11	166 46⅘	167 57½	167 17½	
	Cape Quiros			14 56				167 32⅘	
♃ —— 25	N 33 W	39	14 50	14 55¼	167 49	166 19⅞	167 30⅘	167 20	
♀ —— 26	S 69 E.	14	15 0¼	15 5	168 2	166 27	166 51½	167 2⅚	
♄ —— 27	N 14 W	24	14 42	14 39¼	167 55	166 11⅓	167 3⅓	167 10	
	Cape Cumberland			14 39¼				166 54½	
☉ —— 28	S. 60 W	24	14 51¼	14 50½	167 34	165 55½	167 13⅓	166 47	
☽ —— 29	S. 49 W	12	14 58½	14 58½	167 24	165 51	166 50	166 38½	
♂ —— 30	S 10 W	17	15 15½	15 19⅞	167 20	165 54⅓	166 16½	166 34	
☿ —— 31	S 27 E	24	15 41	15 45	167 32	166 6½	166 52	166 37½	
	Cape Lisburne			15 40¼				166 49¼	
	Table Island			15 38				166 57	
♃ Sept. 1	S. 35 W	54	16 29⅓	16 33½	166 55	165 28¼	166 16⅞	167 7	
♀ —— 2	S. 18 W	88	17 56	18 6½	166 23	164 42¼	165 30⅞	166 11¼	
♄ —— 3	S 17 W	55	18 59¼	19 3½	166 6	164 15	165 3½	165 25¼	
☉ —— 4	S 11 W	52	19 50¼	19 50¼	165 53	164 0½	164 48⅓	164 58	
☽ —— 5	S 10 W	9	20 8¼	20 16⅓	165 49½			164 43½	
	Pudyoua, or Observ. Island			20 18½				164 40¼	
	Island Ballabea			20 7				164 41½	
	Cape Colnet			20 30				164 22	
♂ —— 13	N 23½ W	26	19 54	19 53½	165 39	163 42⅓	164 17½	164 56	
☿ —— 14	N 27 W	31	19 26	19 28¼	165 24	163 27	163 46¼	164 26	
♃ —— 15	N 11 W	22	19 7	19 15¼	165 18½	163 20⅓	163 41⅓	164 10½	
♀ —— 16	S. 47 E.	22	19 31	19 34½	165 35½	163 36½	163 57¼	164 3¼	
♃ —— 17	S. 49 E	26	19 51¼	19 53¼	165 56½	164 4¼	164 26	164 20½	
☉ —— 18	S. 49 E	16	20 4¼	20 4	166 11½			164 46⅓	
☽ —— 19	S 51 E.	33	20 24	20 26	166 36½			165 1	
♂ —— 20	S. 63 E	27	20 36¼	20 41	167 2	165 4½	165 25½	165 28½	
☿ —— 21	S. 78 E.	20	20 45¼	20 54½	167 23	165 24½	166 7½	165 48	
♃ —— 22	S. 42 E	40	21 24¼	21 25½	167 53	166 1¼	166 47	166 8⅓	
♀ —— 23	S. 34 E	31	21 52	21 53½	168 13½	166 23⅓	167 8¼	166 45¼	
	Cape Coronation			22 5				167 7½	
♄ —— 24	S. 54 E	27	22 9¼	21 59½	168 37½	166 42⅓	167 50⅞	167 8	
	Q. Charlotte's Foreland			22 15				167 26½	
☉ —— 25	S. 11 W.	17	22 16½	22 10¼	168 33½	166 38⅓	167 53⅓	167 12¼	
☽ —— 26	S. 54 E	18	22 21	22 16	168 48½	166 50¼	168 6	167 22½	
♂ —— 27	S 67 E	28	22 27	22 32½	169 16½	167 8⅕	168 23⅞	167 35	
☿ —— 28	S. 59 W.	22	22 43½	22 44½	168 54½	166 45½	168 0¼	167 52⅞	
	Isle of Pines			22 38				167 29¾	
♃ —— 29	S. 29 W.	20	22 27	22 26⅘	168 42½	166 30⅞	167 28⅓	167 38	
	Botany Island			22 26½				167 15⅓	
♀ —— 30	S. 18 E.	7	22 33⅘	22 34½	168 45	166 34½	167 42¼	167 16¼	
								167 18	

1774.	Course.	Distance.	Latitude South. By Account.	Latitude South. By Observation.	Longitude East. By Account.	Longitude East. By Watch K.	Longitude East. By Observation.	Longitude East. Corrected.	Ship rolls.	Swell from.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′		
♄ Oct. 1.	S. 66 E.	58	22 58	22 56⅔	169 43	167 33¼	168 30¼	168 18⅕		¶
☉ —— 2.	S. 26 E.	52	23 19⅓	23 19⅓	170 33	168 47¼	169 56¼	169 32¼		N. E.
☽ —— 3.	S. 28 E.	68	24 19⅓	24 4¼	170 59	169 27¼	170 36¼	170 13¾		N. E.
♂ —— 4.	S. 26 E.	81	25 17	25 28	171 44	170 31	171 40⅓	171 17⅓		
☿ —— 5.	S. 9 E.	87	26 53¼	26 53	171 59	170 50¼	172 0	171 37⅕		
♃ —— 6.	S. 4 E.	62	27 54¼	27 52	172 3½	170 58⅙	172 4⅙	171 45⅗		
♀ —— 7.	S. 79 W.	3	27 52⅔	27 52	172 0½	170 57	172 3	171 45		
♄ —— 8.	S. 62 W.	71	28 25⅔	28 24⅚	170 49	169 42¼	171 3½	170 31		
☉ —— 9.	S. 58 W.	63	28 58	28 54¾	169 48	168 35¼	168 57¼	169 24½		
☽ —— 10.	S. 88 W.	57	28 58	28 57⅔	168 42	167 21	168 14¼	168 10		
	Norfolk Island.			29 1¼				168 10		
♂ —— 11.	S. 11 E.	23	29 20	29 21⅙	168 47	167 19¼	167 41⅙	168 8		
☿ —— 12.	South.	100.7	31 1¼	31 1½	168 47	167 2¼	167 30½	167 50¼		
♃ —— 13.	S. 15 E.	106	32 43¼	32 54½	169 21	167 35	168 26	168 22¾		
♀ —— 14.	S. 39 E.	87	34 2	34 2⅓	170 26	168 41⅞	169 17¼	169 28⅙		
♄ —— 15.	S. 41 E.	119	35 32	35 32	172 2	170 11¼	170 47⅙	170 56¾		
☉ —— 16.	S. 34 E.	140	37 28	37 33	173 42	171 55¼	172 31⅙	172 40⅓		
☽ —— 17.	S. 28 E.	120	39 19	39 24	174 57	173 1⅙	173 36⅙	173 45⅙		
	Q. Charlotte's Sound.			41 6				174 18 7/10		

It being a matter curious in itself, and perhaps of some use, to know the greatest angle which a ship lies down to, when going on a wind, or that she rolls when going before it in a high sea, I contrived, whilst in the Sound, to fix a graduated circle to one of the beams of the ship that passed through my cabin: an axis, passing through the center, carried a long slender rod, which had a pretty large leaden ball fixed to its lower end, whilst the upper end, above the center, served as an index to point out the degree which the ship rolled to, on the circle. The axis moved smoothly in its socket, and just free enough to let the ball turn it as the ship rolled. The upper end of the rod was adjusted to point exactly to O when the ship was upright in the Sound; and for the remainder of this Journal I have added another column, wherein is inserted the degrees to which, at different times, I observed the above-mentioned index point to.

1774.	Course.	Distance.	Lat. By Account.	Lat. By Observation.	Long. By Account.	Long. By Watch K.	Long. By Observation.	Long. Corrected.	Ship rolls.	Swell from.
♀ Nov. 11.	S. 33 E.	69	42 20½	42 21⅐	175 29	175 22⅓	174 54⅙	175 15⅞		
♄ —— 12.	S. 22 E.	64	43 20⅓	43 13½	176 2	175 50¼	175 27⅙	175 43⅕		
☉ —— 13.	S. 39 E.	83	44 18	44 32	177 14	177 13	176 50⅙	177 6		
☽ —— 14.	S. 41 E.	108	45 39¼	46 7½	178 54			178 52	14	
♂ —— 15.			47 5	47 47½	181 15½	181 11¼	180 49⅓	181 4¼	09	
☿ —— 16.	S. 42 E.	124	49 19¼	49 33⅚	183 39¼	183 26⅞	183 4¼	183 19⅕	23	

It was this afternoon discovered, that the preceding differences between the log and observed latitudes were owing to the log-line having been marked, by mistake, a whole knot wrong: Corrected it.

1774.	Course.	Distance.	Lat. By Account.	Lat. By Observation.	Long. By Account.	Long. By Watch K.	Long. By Observation.	Long. Corrected.	Ship rolls.	Swell from.
♃ —— 17.	S. 41 E.	127	51 8¼	51 10¼	185 50¼	185 57¼	185 35⅙	185 50	40¼	
♀ —— 18.	S. 50 E.	141	52 39	52 44⅙	188 45⅙	188 58¾	188 36⅙	188 50¾		
♄ —— 19.	S. 64½ E.	137	53 44⅙	53 41⅙	192 21¼			192 53		
☉ —— 20.	S. 76 E.	134	54 13	54 12¼	196 4⅙			197 2⅙	14⅙	
☽ —— 21.	S. 30 E.	101	55 40	55 39	197 34⅙			198 59		
♂ —— 22.	S. 85 E.	118	55 50¼	55 48⅓	201 4⅓	203 4⅞	192 42½	202 55⅞	30	

1774	Course	Distance Miles	Latitude South By Account °	Latitude South By Observation	Longitude East By Account	Longitude East By Watch K.	Longitude East By Observation	Longitude East Corrected	Ship roll	Swell f
☿ Nov 23	N 82 E	45	55 42	55 42½	202 24½	204 49	204 26	204 39¾	33	
♃ — 24	N 86 E	80	55 37	55 32½	204 47	207 18⅞	206 56½	207 9¾	10	
♀ — 25	N 80 E	141	55 7¼	55 9½	208 49	211 55¼	211 32	211 15¾	14	
♄ — 26	N 89 E	168 2	55 6¼	55 6	213 42			216 53	15	
☉ — 27	N 89 E	183	55 2¼	55 3	219 2	222 38	222 15⅝	222 27½	13	
☽ — 28	S 82 E	166	55 24	55 25¾	223 40			227 14		
♂ — 29	N 88 E	153	55 18½	55 22	228 10			231 5½	31	
☿ — 30	S 78 E	39	55 26½	55 31½	229 17			233 7¼		
♃ Dec 1	N 88 E	56	55 29½	55 32	231 3			235 2	13	
♀ — 2	N 64½ E	90	54 50½	54 55½	233 26	237 44⅞	237 22½	237 33⅜		
♄ — 3	N 38 E	70	54 0¼	54 0¼	234 41			238 38	18	N
☉ — 4	N 69½ E	117	53 19	53 15¾	237 49	241 49⅜	241 25¼	241 36¾		N
☽ — 5	N 87 E	129	53 8½	53 7⅞	241 23½	245 22¾	245 0	245 10⅞		N
♂ — 6	S 89 E	168	53 11	53 10½	246 3¼	249 37⅞	249 10½	249 20⅞	38	
☿ — 7	S 86 E	120	53 19	53 19⅛	249 23	252 45	252 17½	252 32½		
♃ — 8	S 84 E	99	53 29½	53 31	252 7	255 2½	255 1⅞	255 11		N E
♀ — 9	S 89 E	76	53 32½	53 37½	254 17			257 17	14	W
♄ — 10	S 70 E	64	53 59½	53 53½	255 58	259 6¼	258 44⅜	258 53		
☉ — 11	N 87 E	180	53 49½	53 37½	261 3	264 2¼	263 41	263 40		
☽ — 12			53 42	53 24½	265 2	268 4¼	267 30	267 50		
♂ — 13	N 89 E	74	53 24	53 23¾	267 5	270 9¼	270 39	269 55¼		
☿ — 14	S 89 E	127 3	53 26	53 25½	270 41	273 27⅞	273 57⅜	273 13⅞		
♃ — 15	S 87 E	120	53 31½	53 30½	274 5	276 49¼	277 19¾	276 35		
♀ — 16	N 88 E	132½	53 25½	53 26½	277 50	280 32⅞	281 2⅜	280 18		
♄ — 17	N 88½ E	118	53 24½	53 21⅓	281 4	283 41	284 11	283 26		
Cape Diffeada				53 4¼				285 42		
☉ — 18	S 72 E	114	53 57	54 12¼	284 9	286 47	287 16⅜	286 31¾		
Cape Noir				54 32½				287 56¾		
☽ — 19	S 55 E	100	55 10½	55 20½	286 29	289 16¼	289 45¾	289 0½		
♂ — 20	S 67 E	36	55 39½	55 39½	287 22	290 7½	290 36⅞	289 51⅜		
Chriftmas Sound				55 22				289 59		
☿ — 28				55 32½	287 44½	290 26⅜	290 18¾	290 5⅛		
St Ildefonfo s Ifles				55 51				290 32		
Cape Horn				55 59				292 34		
Barnevelt s Ifles				55 49				293 2		
Evout's Ifles				55 34½				293 1		
♃ — 29	S 78 E	92	55 43½	55 43⅞	290 32	293 44½	293 36⅞	293 2¼		
♀ — 30	N 26 E	26	55 20½	54 53	290 56	295 20¼	295 13	294 59½		
Cape Succefs				55 1				294 33		
Succefs Bay				54 49¾				294 35		
East Cape of Staten Land				54 53¾						
Cape St Anthony				54 46¾				295 13½		
Cape St. Diego,				54 33				294 46		
♄ — 31	N 08 E	23	54 52¾	54 42½	291 46	296 4⅗	295 56¾	295 49¼		

1774.	Course.	Distance.	Latitude South By Account.	Latitude South By Observation.	Longitude East By Account.	Longitude East By Watch K.	Longitude East By Observation.	Longitude East Corrected.	Ship rolls.	Swell sets.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′		
	Ship at anchor off New Year's Isle.			54 41				295 46		
	New Year's Harbour.			54 48½				295 49		
	Cape St. Juan.			54 47⅕				296 13		
1775.										
♂ Jan. 3.	S. 8 W.	19	55 3	54 55⅘	291 48	296 15	296 7⅓	295 54		
☿ —— 4.	S. 51 E.	75	55 42⅖	55 32⅔	293 31	298 12½	298 4⅞	297 51½		N. E.
♃ —— 5.	S. 49 E.	138	57 3⅔	57 8½	296 50	301 47¾	301 40½	301 26¾		
♀ —— 6.	S. 70 E.	118	57 49	57 51⅓	300 17	305 40¼	305 2	305 19¼		
♄ —— 7.	N. 46 E.	63	57 7⅔	57 0½	301 54	307 11⅓	306 47	306 50⅓		
	Sounded: no ground with 150 fathoms.									
☉ —— 8.	N. 26 E.	94	55 32¾	55 8⅔	303 11	308 19¼	307 37⅓	307 58⅔		
☽ —— 9.	S. 88 E.	71	55 10½	55 11⅞	305 18			310 13¼		
♂ —— 10.	N. 49 E.	50	54 40	54 35 ::	306 32			311 36¼		
☿ —— 11.	S. 87 E.	108	54 41⅓	54 36¼	309 39⅓	315 15½	314 32⅞	314 54½		
♃ —— 12.	N. 85 E.	79	54 29¾	54 28¼	311 56½			317 10¾		
♀ —— 13.	S. 52 E.	62	55 6½	55 0½	313 20½			318 32⅔	15	S. W.
♄ —— 14.	N. 52 E.	86	54 14	53 56¾	315 15½	320 46¾	320 4⅛	320 25¾		
	Sounded several times, and had 175 and 120: bottom mud.									
☉ —— 15.	S. 39 E.	44	54 30¼	54 29½	316 2½			321 7½		
	Sounded: 110 fathoms; the bottom mud.									
☽ —— 16.	N. 82 E.	24	54 27	54 25¼	316 43	322 2½	321 20	321 41⅓		
	Willis's Isles.			54 0				321 30⅓		
	Cape North.			54 4¾				321 45		
	Cape Buller.			53 58½				322 20		
♂ —— 17.	N. 63 E.	41	54 6¼	54 0¾	317 44	323 4⅛	322 21¼	322 43⅔		
	Cape Saunders.			54 6½				323 2½		
	Cape George.			54 17				323 27½		
	Cape Charlotte.			54 32				323 48½		
☿ —— 18.	S. 59 E.	59	54 31¼	54 30⅛	319 12	324 30¼	323 47⅛	324 9¼		
	Sounded: 80 fathoms; bottom mud.									
♃ —— 19.	S. 7 E.	17	54 47	54 42⅖	319 15	324 32½	323 49⅞	324 11⅕		
	The Lurker, off Sandwich Bay.			54 42				324 1		
	Cooper's Island.			54 57				323 55⅔		
♀ —— 20.	S. 35 W.	23	55 2	55 3¾	318 53	324 9⅞	323 26⅞	323 48⅞	39	
	Sounded: no ground with 120 fathoms.									
	Cape Disappointment.			54 58				323 45		
	Green Isles.			54 59				323 45		
	Pickersgill's Island.			54 42½				323 2		
	Clerke's Isles.			55 5½				325 18		
♄ —— 21.	S. 75 E.	48	55 16¼	55 16½	320 13	325 43⅔	325 0½	325 22⅔		
☉ —— 22.	N. 32 E.	21	54 59	54 59½	320 32			325 36⅔		
☽ —— 23.	S. 63 W.	15	55 5¼	55 6½	320 9			325 8⅔		
	Sounded: and had 60 and 75 fathoms; bottom shells.									
♂ —— 24.	N. 54 E.	10	54 59¾	55 1	320 24			325 18⅔		

1775		Course	Distance	Latitude South: By Account	Latitude South: By Observation	Longitude East: By Account	Longitude East: By Watch K	Longitude East: By Observation	Longitude East: Corrected	Ship rolls	Swell from
		°	Miles								
☿ Jan	25	S 44 E.	81	55 57¾	56 0½	322 2	327 12¼	326 29	326 51¼		
♃ ——	26	S 41 E	111	57 23¾	57 38½	324 14	329 18	329 13	328 57		
♀ ——	27	South	123	59 41½	59 44	324 14½	329 21	329 16¼	329 0		
		Sounded	No ground with 140 fathoms								
♄ ——	28	S 59 E	33	59 58¾	60 5½	324 56½	330 55¼	330 50	330 84¼		
☉ ——	29	N 58 W	13	59 57	60 1½	324 31½			330 13¼		
☽ ——	30	N 30 E	31	59 34½	59 34	325 2			330 49¼		
		Friezland's Peak			59 2				333 4		
		Cape Bristol			59 2				333 9		
		South Thule			59 34				332 15		
♂ ——	31	N 69 E	59	59 13½	59 12	326 48½	333 1	332 56	332 40		
☿ Feb	1	N 3 E	46	58 26¾	58 25	326 63½	333 6	333 1	332 45		
		Sounded	No ground with 160 fathoms								
		Cape Montagu			58 33				333 14		
♃ ——	2	N 3 E	37	57 47	57 46	326 58	333 29	333 23	333 8		
		Sounded	No ground with 220 fathoms								
		Saunders's Isle			58 0				333 2		
♀ ——	3	N 8 E	31	57 16½	57 15	327 6			333 8		
		Candlemas Isles			57 10				332 47		
♄ ——	4	N 52 E	39	56 47	56 44	328 7	334 34¼	334 29	334 13¼		N W
☉ ——	5	S 72 E	68	57 5	57 9	330 4	336 31	336 26¼	336 10		
☽ ——	6	S 39 E	88	58 18	58 19	331 48½			337 56		
♂ ——	7	S. 88 E.	116	58 22¼	58 24¼	335 33½	342 5	342 0¼	341 44		
☿ ——	8	S 81 E	106	58 40	58 29	338 53	345 27	345 21¼	345 6		
♃ ——	9	N 85 E	47	58 26	58 26	340 23	347 5	347 0¼	346 41		
♀ ——	10	N 81 E	76	58 15	58 15	342 57	349 32¼	349 27	349 11¼		
♄ ——	11	S 89 E.	80	58 16	58 6	345 27	352 11¼	352 6	351 50¼		
☉ ——	12	S 81 E	27	58 11	58 20	346 20	353 32	353 26	353 11		
☽ ——	13	N 66 E	59	57 56	57 56	348 1	355 34	355 28¼	355 13		S I
♂ ——	14	N 75 E	120	57 23½	57 23¾	351 47	359 35	359 30	359 14	12	West
♂ ——	14	N 75 E	157	56 43¼	56 37	356 35	4 20	4 15¼	3 59	37	East
		Dropped 360° and repeated a day									
☿ ——	15	N 40 E	82	55 34	55 26	358 15	6 2	5 56	5 41		
♃ ——	16.	N 17 E.	58	54 31	54 31	358 45	6 22	6 16	6 1		
♀ ——	17	N 85 E.	98	54 23¾	54 23	1 35	8 58¾	8 37	8 37¼		North
♄ ——	18	East.	111 3	54 24	54 23	4 47			11 56		
☉ ——	19	N 74 E	35	54 13	54 11	5 45			13 1		
☽ ——	20	S 85 E	105	54 21	54 15	8 45	16 29	16 18	16 8		N E
♂ ——	21	S. 85 E	82	54 22	54 24	11 6	18 55	18 33	18 34		
☿ ——	22.	S 69 E.	118	55 7	55 10	14 21	22 10¾	22 2	21 50		S by W
♃ ——	23	N 61 E	101	54 21	54 26	16 54			24 39	18	
♀ ——	24	N 31 E	106	52 56	52 51	18 30	26 52¼	26 6	26 31¾		
♄ ——	25	N 29 E.	148	50 42¼	50 33½	20 33	29 0	28 19½	28 40		
☉ ——	26	N 31 E	88	49 18	49 20	21 43	30 17	29 45	29 57¾		
☽ ——	27	N 47 E.	97	48 15	47 58	23 57			31 53¼		
♂ ——		N 7 E.	82	47 13¾	46 58¼	26 12	34 10	33 38½	33 50½		S E b E

1775.		Course.	Distance.	Latitude South By Account.	Latitude South By Observation.	Latitude East By Account.	Latitude East By Watch K.	Latitude East By Observation.	Latitude East Corrected.	Ship rolls.	Swell sets.
		°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′		
☿ March	1.	N. 71 W.	92	46 28¼	46 28	24 10¼			31 45½		
♃ ——	2.	N. 30 W.	63	45 33¼	45 32⅔	23 25	31 15⅞	30 43⅞	30 56	39	
♀ ——	3.	N. 25 W.	100	44 2⅙	43 53¾	22 20	30 7¾	29 35¾	29 47⅜		E. S. E.
♄ ——	4.	N. 85 W.	52	43 49	43 46¼	21 8	29 9¼	28 37¼	28 49½		E. S. E.
☉ ——	5.	N. 59¼ W.	73	43 46¼	43 49¼	19 27	27 33	27 1	27 13¾		E. S. E.
☽ ——	6.	N. 9 W.	79	42 31½	42 23¼	19 7	27 33¼	26 59½	27 14¼		East.
♂ ——	7.	N. 52 W.	41	41 59	41 48¼	18 24	26 44¼	26 10⅞	26 25		N. E.
☿ ——	8.	S. 62 W.	31	42 3	41 47⅔	17 47	26 13⅞	25 40½	25 54⅞		
♃ ——	9.	S. 71 W.	46	42 2¼	42 6	16 49	25 18¼	24 45¾	25 0		
♀ ——	10.	N. 31 W.	78	40 59¼	40 56⅔	15 55	24 23¾	23 51⅛	24 4⅞		East.
♄ ——	11.	N. 58 W.	47	40 32	40 3	15 2	23 59	23 26¼	23 40¾		
☉ ——	12.	N. 11 W.	42	39 22	38 50⅚	14 50	24 34⅛	24 2⅛	24 16⅛		
☽ ——	13.	N. 45½ W.	121	37 25⅙	37 18⅛	13 10	22 50¼	22 18¼	22 32¾		
♂ ——	14	N. 15 E.	76	36 5	36 27½	13 35	22 33	22 0¼	22 15½		
		Sounded: 80 fathoms, stony ground.									
☿ ——	15.	N. 17 E.	62	35 28	35 16	14 2	22 34⅛	22 2⅛	22 17⅞		
		Sounded, and had 56 fathoms.									
♃ ——	16.	N. 47 W.	27	34 57¼	34 49	13 38	22 14¾	22 20⅛	21 57¾		
		Saw land. Sounded, and had 40 fathoms.									
♀ ——	17.	S. 72 W.	50	35 4¼	35 2	12 43	21 10⅛	20 39	20 53¾		East.
		Sounded, and had 50 fathoms.									
♄ ——	18.	N. 83 W.	9	35 0¼	34 59¼	12 33	20 53⅓	20 22	20 36		
☉ ——	19.	N. 83 W.	23	34 57	34 51⅓	12 5	20 20¼	19 48¾	20 4		
☽ ——	20.	N. 61 W.	93	34 6¼	34 13	10 25¼	18 12⅛	17 40⅔	17 56⅛		
		Cape Town.			33 55¼				18 23¼		
♀ April	28.	N. 58 W.	101	33 2¼	32 50	16 41	16 19⅞		16 19⅞		
♄ ——	29.	N. 57 W.	140	31 33¼	31 31	14 23	13 47		13 47		
☉ ——	30.	N. 58 W.	127	30 24¼	30 17⅔	12 17	11 31¼		11 31¼		
☽ May	1.	N. 51 W.	98	29 16	29 12	10 49	9 55¼		9 55¼		
♂ ——	2.	N. 51 W.	95	28 12	28 11⅙	9 25	8 23		8 23		
☿ ——	3.	N. 50 W.	101	27 5¼	27 1	7 49¼	6 58	7 7¼	6 58		
♃ ——	4	N. 38 W.	35	26 32¼	26 34	7 25	6 36⅛	6 29⅛	6 36⅛		
♀ ——	5.	N. 36 W.	39	26 3¼	26 2	6 59					
♄ ——	6.	N. 45¼ W.	86	25 1⅔	25 0¼	5 51	4 56	4 49	4 56		
☉ ——	7.	N. 44 W.	122	23 33	23 27¼	4 12	3 19⅛	3 29⅛	3 19⅛		
☽ ——	8	N. 44 W.	110	22 8	22 5	2 46	1 49	2 4⅛	1 49		
♂ ——	9.	N. 48 W.	109	20 51¼	20 46¼	1 13	0 14⅛	0 23	0 14⅛		
							West.	West.			
☿ ——	10.	N. 48 W.	91	19 44¼	19 39	0 5	0 58½	0 49⅛	0 58½		
♃ ——	11.	N. 47 W.	78	18 46¼	18 52⅙	1 05	2 9⅛	2 2¼	2 9⅛		
♀ ——	12.	N. 48 W.	37	18 28¼	18 27¼	1 35	2 41	2 15⅛	2 41		
♄ ——	13.	N. 42 W.	60	17 43	17 43⅛	2 19	3 19	2 53⅛	3 19		North.
☉ ——	14	N. 42 W.	75	16 47	16 46⅔	3 12	4 19⅙	4 9½	4 19⅙		N. E.
☽ ——	15	N. 52 W.	72	16 3	16 1¼	4 13	5 16¼		5 16¼		
		St. Helena.			15 55⅛				5 49		
☽ ——	22.	N. 55 W.	47	15 28	15 24	6 29¼	6 28⅛	7 22¼	6 29¼		

1775	Course	Distance.	Latitude South: By Account	Latitude South: By Observation	Longitude West: By Account	Longitude West: By Watch	Longitude West: By Observation	Longitude West: Corrected	Ship rolls	Swell fr
		Miles	° ′	° ′	° ′	° ′	° ′	° ′		
♂ May 23	N 58 W	104	14 29	14 33½	8 1	8 1	8 38⅛	8 1¾		
☿ —— 24	N 58 W	134	13 22½	13 30½	9 58	9 54	10 7½	9 54½		
♃ —— 25	N 29 W	129	11 38	11 42½	11 3	11 2½	11 31½	11 3		
♀ —— 26	N 23 W	123	9 49¾	9 55$\frac{1}{10}$	11 55	11 56⅜	12 25⅞	11 57½		
♄ —— 27	N 36 W	117	8 21	8 22½	13 3	13 3½	13 32½	13 3⅞		
☉ —— 28	N 70 W	68	7 57½	7 58⅞	14 7	14 11½	14 40	14 11⅞		
	Ascension			7 57				14 30		
♃ June 1	N 44 W	81	6 57	6 59½	15 27	15 31½	15 7½	15 30½		
♀ —— 2	N 83 W	95	6 48	6 43½	17 2	17 19½	17 5⅞	17 17½		
♄ —— 3	N 82 W	116	6 27½	6 26½	18 58	19 28	19 23⅛	19 25		
☉ —— 4	N 81 W	125	6 7	6 0½	21 2	21 39	21 4⅛	21 35		
☽ —— 5	N 80 W	121	5 39½	5 39	23 2	23 49	23 15½	23 43		
♂ —— 6	N 78 W	129	5 12½	5 8½	25 9	26 7½	25 44	26 0½		
☿ —— 7	N 78 W	85	4 51½	4 57½	26 32	27 56½	27 31½	27 48		
♃ —— 8	N 49 W	92	3 57	3 44	27 42	29 40	29 23½	29 30½		
♀ —— 9	S 88 W	110	3 50½	3 43½	29 32	32 14½	31 44½	32 4½		
	Island Ferdinando de Noronha.			3 56½				32 23		
♄ —— 10	N 12 E	99	2 6	1 57	29 10	32 19½	32 20½	32 7¾		
☉ —— 11	N 16 E	97	0 23½	0 11½	28 50	32 10¼	32 21⅛	31 57		
			North.	North						
☽ —— 12	N 19 E	128	1 50½	1 50⅛	28 8	31 51¼	31 38¼	31 37½		
♂ —— 13	N 5½ E	93	3 23	3 49½	27 59	31 48	31 35	31 33⅛		
☿ —— 14	N 31 W	46	4 29	4 31	28 23	31 40¼	31 27¼	31 25		
♃ —— 15	N 20 E	68	5 33	5 38	27 59	30 59	30 46	30 43		
♀ —— 16	N 27 E	32	6 1½	6 9½	27 44½	30 31½	30 18½	30 15		
♄ —— 17	N 25 W	13	6 21½	6 13	27 48	30 19	30 6	30 2		
☉ —— 18	N 19 W	16	6 28½	6 12½	27 48½	30 28½	30 15½	30 11		
☽ —— 19	N 11 E	43	6 54½	7 8½	27 39	30 31½	30 17½	30 13½		South
♂ —— 20	N 40½ W	80½	8 9	8 10⅛	28 32	31 17½	31 25½	30 59		South
☿ —— 21	N 45 W	109½	9 27½	9 28¼	29 50½	32 58¼	32 53¼	32 39½		South
♃ —— 22	N 39 W	133		11 12	31 15½	34 12½	34 7½	33 52½		
♀ —— 23	N 34 W	122		12 53½	32 25	35 27½	35 22½	35 7½		
♄ —— 24	N 30 W	103	14 24½	14 37$\frac{6}{10}$	33 17½	36 28½	36 23½	36 7		S by L
☉ —— 25	N 27 W	114½		16 20½	34 11½	37 31½	37 26½	37 10		
☽ —— 26	N 37½ W	118	17 54½	17 53⅛	35 28	38 46⅛	38 41⅛	38 24½		
♂ —— 27	N 25 W	103	19 27	19 31⅞	36 16	39 29½	39 24⅛	39 7½		
☿ —— 28	N 17 W	114		21 20$\frac{9}{10}$	36 52	40 6	40 1	39 44		
♃ —— 29	N 11 W	111		23 10$\frac{1}{10}$	37 16	40 28	40 23	40 5½		
♀ —— 30	N 14 W	120	25 6½	25 9½	37 46½	41 5½	41 0½	40 43½		
♄ July 1	N 15 W	118½		27 4½	38 21	41 30⅛	40 58	41 7⅛		
☉ —— 2	N 5 W	98		28 42	38 31	41 52½	41 7½	41 29½		
☽ —— 3	N 28 E	88		29 59½	37 44	41 18½	40 15½	40 55		West
♂ —— 4	N 15 E	82		31 18½	37 19	40 50⅞	39 52½	40 2[illegible]		
☿ —— 5	N 11 E	75		32 31½	37 2	40 31½	39 34½	40 7¾		
♃ —— 6	N 2 E	36½		33 8⅙	37 0½	40 21½	39 12½	39 57½		

1775.	Courſe.	Diſtance.	Latitude North By Account	Latitude North By Obſervation.	Longitude Weſt By Account.	Longitude Weſt By Watch K.	Longitude Weſt By Obſervation.	Longitude Weſt Corrected.	Ship roll.	Swell ſets.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′		
♀ July 7.	N. 3 E.	25		33 32¼	36 59	40 8¼	39 20	39 44¾		
♄ —— 8	N. 11 E.	35	34 8¼	34 12	36 51	40 7¼	39 26¼	39 43¼		Eaſt.
☉ —— 9.	N. 19 E.	45	34 50¾	35 3	36 32½	40 10¼	39 29¼	39 46¼		
☽ —— 10.	N. 46 E.	68¼	35 50¾	35 45½	35 33	39 14¾	38 33¼	38 50¾		
♂ —— 11.	N. 63 E.	154		36 55 3/10	32 43	36 21¼	35 40½	35 57¼		
☿ —— 12.	N. 62 E.	165	38 12¾	38 12½	29 40	33 6¼	32 26	32 42¾		
♃ —— 13.	N. 83 E.	133	38 27	38 29½	26 53	30 9¼	29 28½	29 45¼		
Villa de Horta, Fayal.				38 32½				28 32⅔		
☿ —— 19.	N. 59 E.	43	38 54	38 52	24 58½	28 3¼		27 40		
♃ —— 20.	N. 76 E.	100	39 18¼	39 13½	22 53½	25 56¼	25 57¼	25 33½		
♀ —— 21.	N. 79½ E.	79	39 26½	39 26⅔	21 13½	24 15	24 35½	23 52¾		South.
♄ —— 22.	N. 81 E.	57	39 35⅔	39 37⅔	19 58½	22 59¾	22 39½	22 38		
☉ —— 23.	N. 51 E.	128	40 58	40 48¼	17 47½	20 36½	20 11	20 14¼		Eaſt.
☽ —— 24.	N. 49 E.	129	42 13¾	42 6½	15 38⅙	18 31	18 5½	18 8½		S. E.
♂ —— 25.	N. 39 E.	124	43 43	43 40½	13 51	16 44¾	16 19¼	16 23¾		
☿ —— 26.	N. 36 E.	143		45 36	11 52	14 22⅞	13 57⅞	14 2⅜		
♃ —— 27.	N. 46 E.	158¼	47 16	47 16¼	9 5	11 27⅞	11 1⅞	11 7⅜		
♀ —— 28.	N. 59 E.	114½	48 15¼	48 9½	6 40	8 58	8 32½	8 38⅞		
♄ —— 29.	N. 57¼ E.	176	49 43	49 37½	2 55	5 9¼	4 43¾	4 50¼		

⁂ In the preceding Journal, the courſe and diſtance put down in the ſecond and third columns are thoſe made good for the whole day; the variation of the compaſs, and common quantity of lee-way, under the circumſtances the ſhip then was, being only allowed for; currents, and heave of the ſea, as it is uſually called, being not taken into the account, except for a few weeks after we left England. Theſe things, I conceived, would be determined with greater certainty, both as to quantity and quality, by comparing the reckoning, kept entirely without them, with thoſe deduced from Obſervations, and the Watch, or Time-keeper made by Mr. Kendall: Indeed, I did not ſee how otherwiſe to make my dead reckoning account of any real uſe, as my judgment, in making allowance for theſe things, could not have the leaſt weight even to confirm that of ſuch ſkilful and experienced navigators as Captain Cook, Mr. Gilbert, and other Officers of the Reſolution. It therefore became my buſineſs to endeavour at making my labours uſeful, though in a leſs degree, by adopting a different plan; and am willing to hope I have done it with ſome ſucceſs, eſpecially as I was very careful in obſerving, as often as poſſible, both the variation of the compaſs, and the lee-way which the ſhip made, from time to time. I have alſo endeavoured to diſtinguiſh between what was effected by a current, and what was the effect of a ſwell, by mentioning the latter, as often as one was obſerved, and the point of the compaſs towards which it ſet, in a ſmall column on the right hand ſide of the page.

The fourth and ſixth columns contain the latitude and longitude of the ſhip, deduced from the above-mentioned courſe and diſtance, on the noon of the civil day; or that where the nautical day ends, and the aſtronomical day begins: The latitude, ſo computed, is only carried on from obſervation to obſervation; that is, in general, only from noon to noon, as I always took the

latitude obferved the day before, when I had one, for the latitude departed from; but the longitude is kept on, without any correction whatfoever, from one place to the next where we anchored, and ftopped long enough for me to determine the longitude properly, or where it had been well fettled before by other perfons. The fifth column contains the obferved latitude when there was an obfervation; and when there was not, the latitude determined, in the beft manner I could, by the log and fubfequent obfervations. Thofe latitudes which were actually obferved, may be readily known by turning to the Obfervations, page 223 to page 280.

Columns feven and eight contain the longitudes of the fhip, as fhewn by Mr. Kendall's Watch, and Mr. Arnold's (N°. 3.), until Mr. Arnold's Watch ftopped, after which that column is difcontinued. The laft column but two exhibits the longitude refulting from the laft lunar obfervation, carried on to the time by Mr. Kendall's Watch; except from our leaving England to the 13th of September, 1772, when it was carried on by the log, the difadvantage of which was foon difcovered; and the laft but one contains, what is efteemed to have been, the true longitude of the fhip each day at noon, and alfo the longitudes of all the lands we faw in the voyage, as well as of the more remarkable Capes, Headlands, and Bays in them; the general method of deducing which was as *follows*:

I reduced all the longitudes refulting from the obfervations of the Moon's diftance from the Sun and fixed Stars made between the times of new and full Moon, to the time of the full Moon, by means of Mr. Kendall's Watch, and took the mean: I reduced, in like manner, all the obferved longitudes taken between the full and change, to the fame time, and took the mean of thefe alfo: the mean of thefe two means were taken for the true longitude of the fhip at that time. In the fame manner were all the longitudes obferved between the full and change, and alfo between the change and next full moon, reduced to the time of the change, and their mean taken for the true longitude of the fhip at that time: and in this manner was the longitude of the fhip afcertained, once a fortnight, generally by a mean of 30 or 40, and fometimes even 50 and 60 obfervations. The longitudes in the intermediate times were deduced from thefe by means of the Watch. In fome inftances, indeed, where I have had fufficient reafons, the longitudes are taken from the Watch itfelf, as in our run from the Cape of Good Hope to the Ifland of St. Helena, although the obfervations would at all times have given the fame longitude within a very few miles, as will readily be feen; and I have alfo paid proper regard to the fituations of places fettled by thofe who have gone before me, where the authorities were fuch as could be depended on.

Laftly, I have to obferve that the length of the log-line was carefully kept, by frequent comparifons, to fuch proportion with the half-minute glafs, as 49¼ feet have to 30 feconds.

Fig. 1.

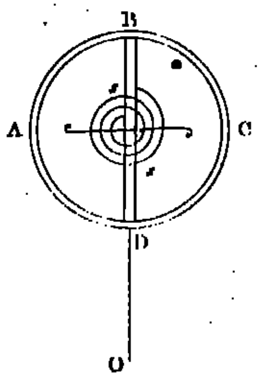


Fig. 2

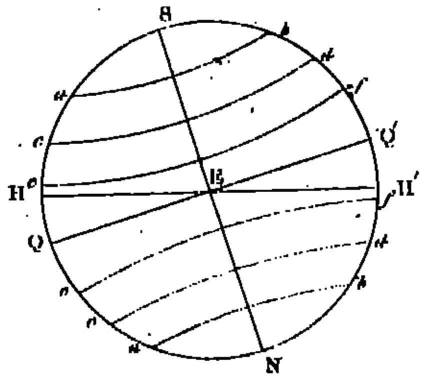
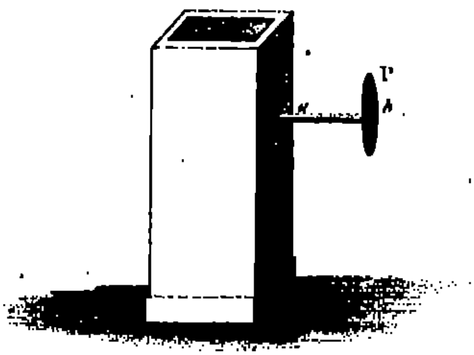
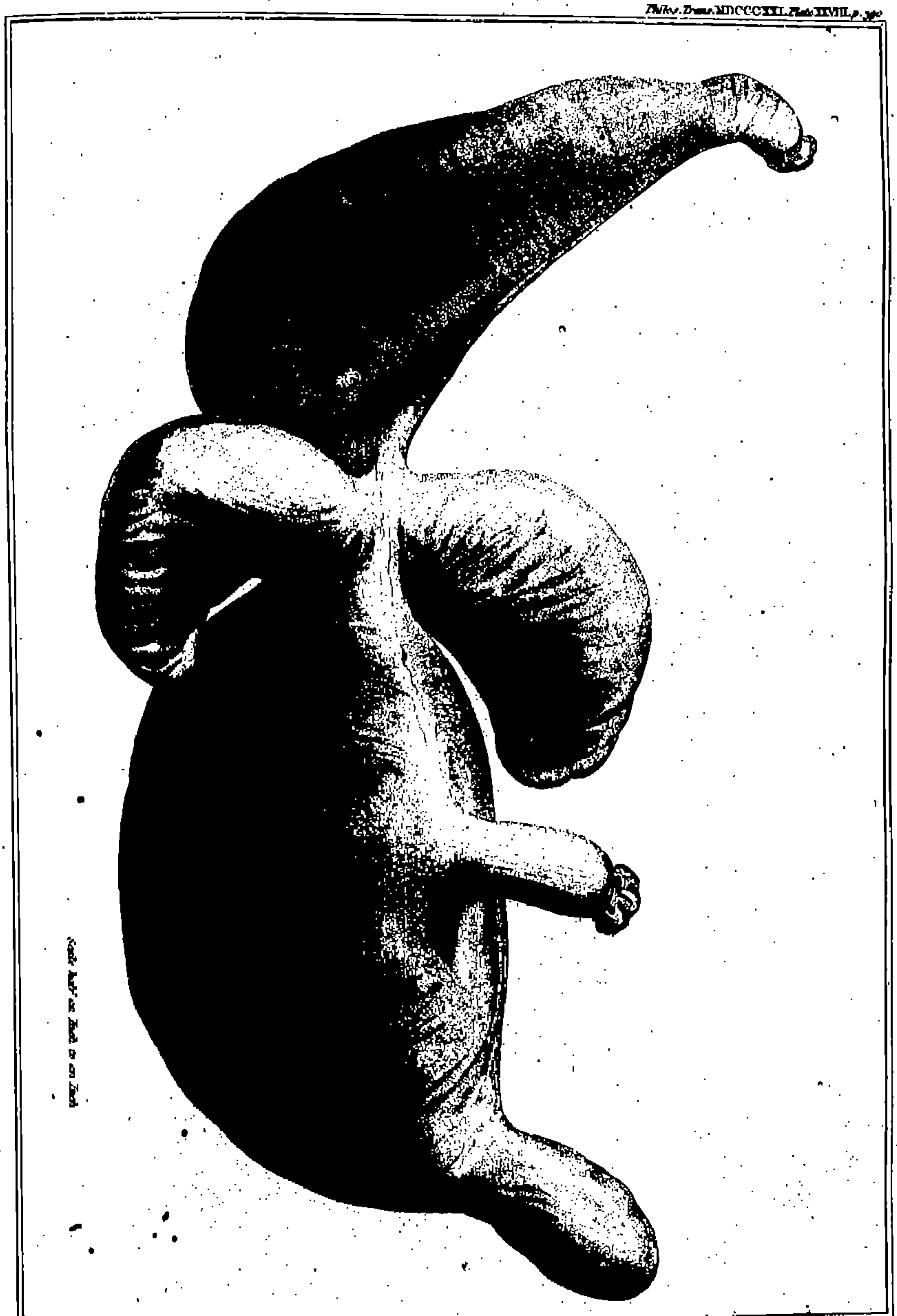
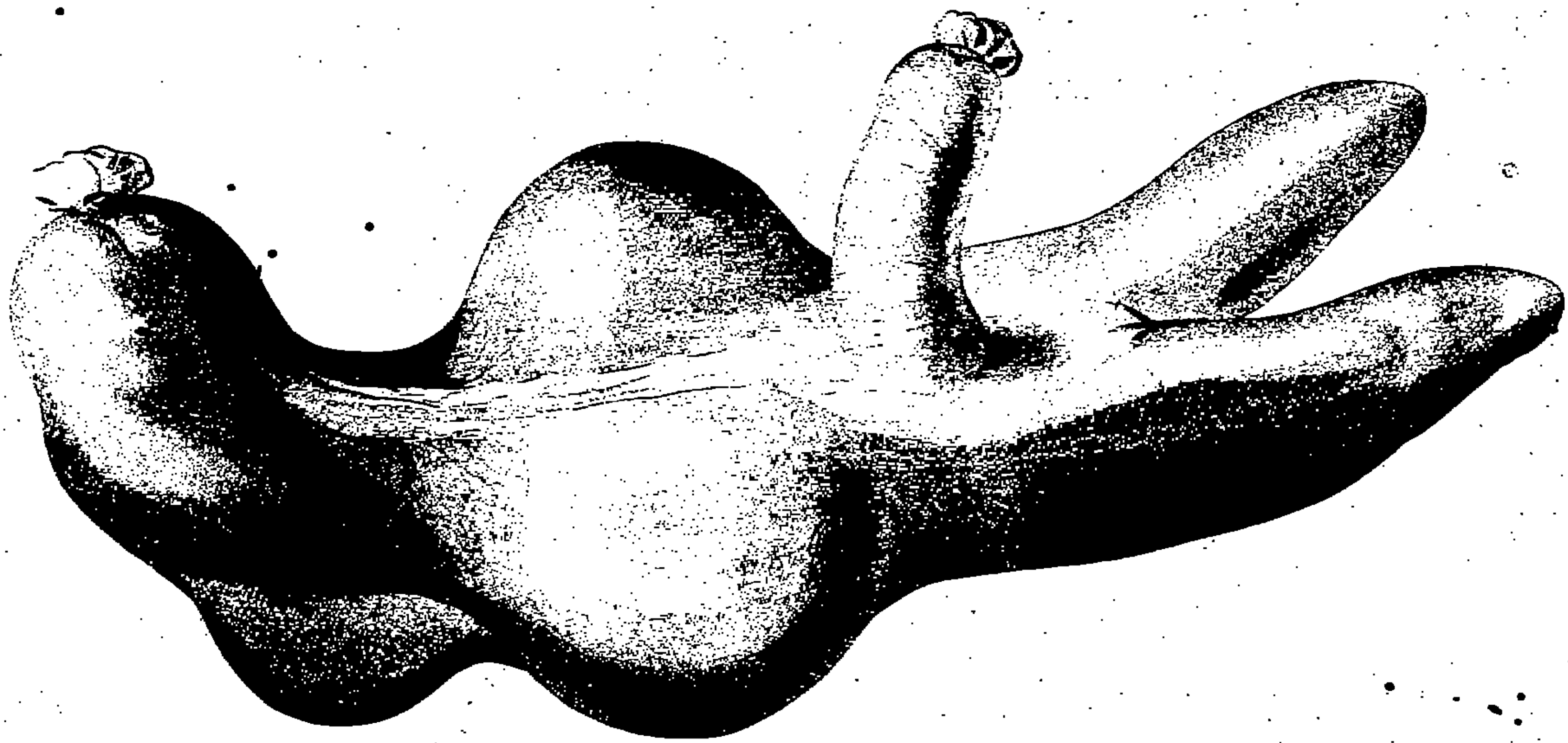


Fig. 3



W. Basire sc.


Scale half an Inch to an Inch



Natural Size

METEOROLOGICAL OBSERVATIONS,

MADE

On Board His MAJESTY's Sloop RESOLUTION,

In her late Voyage on DISCOVERIES towards the SOUTH.

1772.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. The.	Winds.	Weather, &c.
☉ June 21.					S. W.	Moderate wind, clear, and hot weather.
☽ —— 22.						Almost calm, and very hot.
♂ —— 23.					Easterly.	Light breezes, flying clouds, and very hot.
☿ —— 24.					Southerly.	Brisk wind, and flying clouds.
♃ —— 25.					Variable.	Little winds, and ditto.
♀ —— 26.					Ditto.	Light breezes, and ditto.
♄ —— 27.					Westerly.	Ditto.
☉ —— 28.					Variable.	Little wind, and cloudy weather.
☽ —— 29.					Ditto.	Ditto, and thin clouds.
♂ —— 30.					Northerly.	Light breezes, and hazy weather.
☿ July 1.					Ditto.	Ditto.
♃ —— 2.	56¼				Ditto.	Ditto, and fine weather.
♀ —— 3.						Cloudy, with showers.
☽ —— 13.	61	30,31	61½		Westerly.	Moderate wind, and cloudy, with rain at times.
♂ —— 14.	60¼	3 ,29	62	63	Ditto.	Little wind, and foggy weather.
☿ —— 15.	59		64		N. N. E.	Moderate wind, and cloudy weather.
♃ —— 16.	61½	30,18	61½	63	N. W.	Ditto, and fine weather.
♀ —— 17.	63½		70	70	S. W.	Brisk wind, and hazy.
♄ —— 18.	64		65		N. W.	Squally, with clouds, and rain at times.
☉ —— 19.	63	30,05	64½		N. W.	Brisk wind, and cloudy.
☽ —— 20.	63	29,97	66		Variable.	Ditto, and foggy, with rain.
♂ —— 21.	60	30,08	66		S. W.	Little wind, and hazy weather.
☿ —— 22.			65½	69	North.	Ditto.
♃ —— 23.			64½		N. E.	Brisk wind, and flying clouds.
♀ —— 24.	65½		66½		Ditto.	Ditto.
♄ —— 25.	67½	30,3	70	73	Ditto.	Ditto, and cloudy.

Tried Dr. Lind's wind gage, (See Philosoph. Transact. vol. lxv. p. 343.) but could not find that the wind had any sensible effect on it. At the time we had as much wind as we could well carry top-gallant sails to.

1772.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. The.	Winds.	Weather, &c.
☉ —— 26.	68½	30,2	72½	74	N. E.	Moderate wind, and cloudy.
☽ —— 27.	69½		72	71	Variable.	Ditto, and fine weather.
♂ —— 28.	72½	30,1	72½	74	Ditto.	Very little wind, and fine weather.
☿ —— 29.	72	30,18	77½		Ditto.	Little wind, showers, and fine weather.
♃ —— 30.			76		Ditto.	Moderate wind, and hot weather.
♀ —— 31.			72½		Ditto.	Ditto, and showers, with flying clouds.
♄ Aug. 1.			72½		Ditto.	Brisk wind, and flying clouds.
☉ —— 2.			75½		N. E.	Ditto, and cloudy, with showers.
☽ —— 3.	73	30,13	77		Ditto.	Ditto, and cloudy.
♂ —— 4.	72	30,08	75	76½	Variable.	Moderate wind, and very hazy.
☿ —— 5.	75½	30,1	76	77½	East.	Ditto, and foggy.
♃ —— 6.	74	30,1	78	78½	N. E.	Ditto, and cloudy.
♀ —— 7.	74½	30,15	79	79½	East.	Ditto.
♄ —— 8.	73	30,1	79		N. E.	Moderate wind, and hazy.
☉ —— 9.	76	30,08	78		Ditto.	Brisk wind, and cloudy.
☽ —— 10.	75½	30,05	79		Ditto.	Ditto, and hazy weather.
♂ —— 11.	78	30,0	82		N. E. by N.	Moderate wind, and hazy.
☿ —— 12.	80	30,02	80		Ditto.	Ditto, and showers.
♃ —— 13.		30,08	82	83½	N. E.	Ditto, and fine weather.

1772	Morn Therm	Noon B. rom	Noon Therm	Even Therm	Winds	Weather &c.
♀ Aug 14	79	30,12	81		N E	Moderate wind, and fine weather
♄ —— 15	78¼	29 92	80¼		N E by N	Brisk wind with rain

To day we lost the N E. trade wind, which veered round by the E to the S E without flattening to a calm as I believe is generally the case

1772	Morn Therm	Noon B. rom	Noon Therm	Even Therm	Winds	Weather &c.
☉ —— 16	80	29 92	81		South	Moderate wind, and hazy weather
☽ —— 17	79	29 92	80		S W	Ditto, and cloudy
♂ —— 18	78	30 0	82		Ditto	Little wind, and very hazy
☿ —— 19	80	30,07	81	81	N W	Moderate wind, and cloudy, with showers
♃ —— 20	79	29,97	79¼		S W	Little wind, and exceeding heavy rain
♀ —— 21	76¼	29,9	79	79½	Ditto	Squally, with rain
♄ —— 22	78	30 02	80		Ditto	Brisk wind, and cloudy
☉ —— 23	80	30,0	80	80½	Ditto	Moderate wind, and cloudy
☽ —— 24	78	29,95	79		Ditto	Ditto
♂ —— 25	79¼	30,05	80¼	80½	Ditto	Moderate wind, and hazy
☿ —— 26	78	29 92	76½		Ditto	Ditto, and cloudy, with showers
♃ —— 27	78	29,97	80½		Ditto	Ditto, and hazy
♀ —— 28	77½	30 10	77		Ditto	Ditto, and fine weather
♄ —— 29	77	30,2	78	79½	Ditto	Ditto
☉ —— 30	76	30 02	77		South	Ditto
☽ —— 31	76¼	30,07	78½		Ditto	Ditto
♂ Sept 1	77	30,0	79		Ditto.	Ditto
☿ —— 2	76	29,92	78		Ditto	Ditto, and cloudy
♃ —— 3	75¼	30,05	76		Ditto	Ditto
♀ —— 4.	74	30,05	75		Variable	Ditto, and fine weather
♄ —— 5	73¼	30 04	76		S W	Ditto

This morning I let down a Thermometer, suspended in the middle of a strong wooden case, of such a construction as to let the water pass freely through it in its descent, but which shut close the instant it began to be drawn up By this means the Thermometer was brought up in a body of water of the same heat with that it had been let down to The Thermometer stood at 75¼ in the open air, at 74 in the water at the surface, and at 66 when drawn up from the depth of 85 fathoms, where it had lain 20 minutes, and we were seven and a half drawing it up

1772	Morn Therm	Noon B. rom	Noon Therm	Even Therm	Winds	Weather &c.
☉ —— 6	74½	30,0	75		South	Moderate wind, and fine weather
☽ —— 7	75	30 07	77		Ditto	Ditto
♂ —— 8	75½	30 1	76		Ditto	Ditto
☿ —— 9	74½	30,1	75		S E	Ditto
♃ —— 10	74½	30 05	75		Ditto	Ditto
♀ —— 11	74	30,12	76		Ditto	Ditto
♄ —— 12	75½	30,1	76½		Ditto	Ditto
☉ —— 13	74	30,1	76		Ditto	Moderate wind, and cloudy
☽ —— 14	75	30,15	76½	77	Ditto	Ditto, and fine weather
♂ —— 15	73	30 02	77		Ditto	Ditto, and cloudy
☿ —— 16	73	30,17	73		Ditto	Ditto
♃ —— 17	72½	30,17	73½		Ditto	Ditto
♀ —— 18	73	30,15	73½		Ditto	Squally, with rain sometimes.
♄ —— 19	70½	30,17	72½		Ditto	Brisk wind, and cloudy, with showers
☉ —— 20	72	30,22	72½		Ditto	Moderate wind, and fine weather

1772.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☽ Sept. 21.	71	30,12	71		S. E.	Moderate wind, and fine weather.
♂ —— 22.			75		Ditto.	Ditto.
☿ —— 23.	70	30,27	73		Ditto.	Squally, with clouds, and rain at times.
♃ —— 24.	70½	30,3	72		Ditto.	Moderate wind, and cloudy.
♀ —— 25.		30,3	70½		East.	Brisk wind, and cloudy, with showers.
♄ —— 26.	69	30,35	73	73½	Ditto.	Little wind, and fine weather.
	The Thermometer stood at 72½ in the open air, at 70 in the water at the surface, and at 68 when drawn up from a depth of 80 fathoms, where it had lain 15′; and we had been seven minutes drawing it up.					
☉ —— 27.	69½	30,32	74		East.	Little wind, and fine weather.
☽ —— 28.	69	30,25	72		N. E.	Ditto.
♂ —— 29.	67	30,22	71		North.	Moderate wind, and fine weather.
☿ —— 30.	69½	30,12	71½	67½	Variable.	Brisk wind, and cloudy.
♃ Oct. 1.			71		South.	Moderate wind, and flying clouds.
♀ —— 2.	65½		65½		S. W.	Ditto.
♄ —— 3.	63½	30,3	67½		Ditto.	Brisk wind, and cloudy.
☉ —— 4.	62½	30,15	62		Variable.	Moderate wind, and cloudy.
☽ —— 5.	59	30,41	61		S. E.	Ditto, with drizzling rain.
♂ —— 6.		30,4	61½		East.	Ditto, and cloudy.
☿ —— 7.	58¼	30,42	60¼		Ditto.	Squally, unsettled weather.
♃ —— 8.	59	30,4	62		Ditto.	Brisk wind, and cloudy, with rain.
♀ —— 9.	59	30,4	61		N. E.	Brisk wind in squalls, and very hazy.
♄ —— 10.	59	30,37	62		Ditto.	Moderate wind, and hazy: showers.
☉ —— 11.	59½	30,25	63½		Ditto.	Moderate wind, and fine weather.
	The Thermometer stood at 60½ in the open air, at 59 in the water at the surface, and at 57 when drawn up from the depth of 100 fathoms; where it had lain 20′, and we had been six drawing it up.					
☽ —— 12.		30,35	63		N. E.	Little wind, and fine clear weather.
♂ —— 13.	60	30,27	65½		Ditto.	Moderate wind, and cloudy.
☿ —— 14.	61	30,1	61		North.	Ditto.
♃ —— 15.	58	30,02	62		Ditto.	Moderate wind, and fine weather.
♀ —— 16.	59	30,05	61		West.	Brisk wind, and foggy weather.
♄ —— 17.	57	30,05	59		S. W.	Ditto, and flying clouds.
☉ —— 18.		30,1	60½		Variable.	Moderate wind, and cloudy.
☽ —— 19.	54½	30,17	57	58	East.	Little wind, and cloudy.
♂ —— 20.		30,35	62½		Ditto.	Ditto, and clear weather.
☿ —— 21.	60½	30,37	63		Ditto.	Ditto.
♃ —— 22.	58	30,2	60	61	N. E.	Littlewind, and cloudy, with rain at times.
♀ —— 23.	58	29,95	63		West.	Little wind, and cloudy.
♄ —— 24.	56	30,07	59		South.	Brisk wind, and fine weather.
☉ —— 25.	54	30,17	58		S. E.	Moderate wind, and cloudy.
☽ —— 26.	58	30,07	60		Ditto.	Ditto.
♂ —— 27.	59	29,9	60½		Variable.	Moderate wind, and hazy weather.
☿ —— 28.	64	29,9	67		N. W.	Little wind, and cloudy.
♃ —— 29.		29,81	61¼		North.	Moderate wind, with drizzling rain.
♀ —— 30.	61	29,83	60½		N. W	Cloudy, with rain at times.
♄ —— 31.					Ditto.	Brisk wind, and cloudy weather.

1772	Morn	Noon		Even	Winds	Weather &c
	Therm	Barom	Therm	Therm		
☉ Nov 1			63		N W	Brisk wind, and cloudy, with showers
☽ — 2			61½		N W	Ditto, and mostly cloudy
♂ — 3			60½		N W	Moderate wind, and fair weather
☿ — 4		30,34	61½		Variable	Ditto, and variable weather
♃ — 5		30,24	65		Southerly	Ditto
♀ — 6		30,19	66		Ditto	Moderate wind, and fine weather
♄ — 7	66½	30,17	71	66	Ditto	Brisk wind, and squally weather
☉ — 8	62	30,14	68	63¾	N W	Little wind, and flying clouds
☽ — 9	62½	30,15	64	63¾	N W	Moderate wind, and flying clouds
♂ — 10	59½	30,3	62½	60	Variable	Little wind, and fine weather
☿ — 11	59	30,22	64½		N W	Moderate wind and cloudy weather
♃ — 12	62½	30,24	65	61	N W	Ditto, and fine weather
♀ — 13	63	30,26	64½	65	N W	Ditto
♄ — 14	60½	30,33	65½	63¼	Variable	Ditto
☉ — 15	58½	30,19	66		Ditto	Ditto
☽ — 16					Ditto	Ditto
♂ — 17			68		N N E	Ditto
☿ — 18		30 02	71		Variable	Moderate wind, and cloudy
♃ — 19		29,95	69½		S S E	Brisk wind, and cloudy
♀ — 20		29,9	71½		N W	Ditto
♄ — 21		29,97	72		N W	Little wind, and fine weather
☉ — 22			72	72	N W	Moderate wind, and cloudy
[illegible] — 23	62	29,8	65		Variable	Brisk wind, and cloudy, with showers
♂ — 24	62	30,1	63¾		S E	Moderate wind, and clear weather
☿ — 25	62	30,0	64		S E	Brisk wind, and cloudy
♃ — 26	66½	29 8	69¼		West	Moderate wind, and cloudy
♀ — 27	53	30,02	52¾		Variable	Ditto, and flying clouds
♄ — 28	54½	29,85	59½		N W	Strong wind in squalls, with rain
	In the midst of this heavy gale I tried Dr Lind's Wind gage, and the water in it was depressed by the force of the wind $\frac{44}{100}$ of an inch					
☉ — 29	52¾	29,6	51		N W b W	Strong wind, and squally, with hail and rain
☽ — 30	52	29,02	55		N W b W	Strong wind in squalls and rain
	The water in Dr Lind's Wind gage depressed $\frac{44}{100}$ of an inch in the squalls					
♂ Dec 1	62	29,23	51	47	Westerly	Strong wind, and cloudy, with rain
	Dr Lind's Wind gage sunk $\frac{4}{10}$ of an inch in the squalls					
☿ — 2	46	29,3	49½	48	N W	Strong wind, and foggy weather
♃ — 3	47½	29,22	49		N W	Brisk wind, and flying clouds
♂ — 4	43½	29,55	44¼		N W	Moderate wind, and hazy
♄ — 5	50¾	29,7	48		Variable	Brisk wind, and hazy
☉ — 6	38¼	29 52	38		Variable	Strong wind, and cloudy
☽ — 7	38¼	28,6	42¼		N W	Exceeding strong wind, with rain
♂ — 8	37¼	28,92	40	37½	West	Ditto and cloudy, with snow and sleet Penguins
☿ — 9	35	29 32	36	32	West	Strong wind, and cloudy At ½ past 10
	in the evening, some water which had been spilled on the deck was frozen, and in the morning we passed the first island of ice It was not very high, was smooth on the top and sides, and not rugged like those I have seen in the North seas					
♃ — 10	34	29 32	36¼		Variable,	Brisk wind, with snow and sleet,
♀ — 11	32½	29,27	34		N W	Ditto Passed another ice isle.

1772.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♄ Dec. 12.	34	28,55	34½		N. W.	Briſk wind, with ſnow and ſleet. Many ice iſlands.
☉ —— 13.	30¾	28,7	32		S. W.	Ditto. Penguins and ice.
☽ —— 14.	31	29,17	33		Northerly.	Went in the boat to try the heat of the ſea-water, and found that a thermometer which ſtood at 32½ in the open air, ſtood at 30 in the water at the ſurface, and at 34 when drawn up from the depth of 100 fathoms, where it had lain 17′, and we were 5½ drawing it up. While we were doing this, ſo thick a fog came on, that it was with the utmoſt difficulty, and after ſome conſiderable time, that we found the ſhips again.——Much ice.
♂ —— 15.	30	28,57	32		N. W.	Little wind, with fog and ſnow. Ice, whales, and peng.
☿ —— 16.	31	28,7	31½		N. W.	Little wind, fog and ſnow. Much ice.
♃ —— 17.	32	29,3	33½		N. W.	Mod. wind, and cloudy, with ſleet. Ice, whales, ſeals, &c.
♀ —— 18.	30¾	29,4	31		N. W.	Briſk wind and thick fog. Many ice iſlands.
♄ —— 19.	31	29,12	31¾	31½	Variable.	Mod. wind, and foggy. Many large ice iſl.
☉ —— 20.	33	29,05	34	33	N. W.	Briſk wind, with ſnow. Some ice iſlands.
☽ —— 21.	32½	29,05	33½	34½	N. W.	Briſk wind, and hazy. Several ice iſlands.
♂ —— 22.	32½	29,2	33		S. W.	Moderate wind, and cloudy. A thermometer which ſtood at 33 in the open air fell to 32 in the water at the ſurface, and ſtood at 34½ when drawn up from the depth of 100 fathoms, where it had been 16′, and we were 6½ drawing it up.—Many ice iſlands.
☿ —— 23.	33	29,65	34		N. W.	Mod. wind, and cloudy, with ſnow. Some ice.
♃ —— 24.	32½	29,4	35		Variable.	Little wind, and cloudy. Ice.
♀ —— 25.	31½	29,05	32¾		South.	Moderate wind, and cloudy. Some ice.
♄ —— 26.	30½	29,15	31½	32	S. W.	Briſk wind, and cloudy. Much ice.
☉ —— 27.	33½	29,45	36		Eaſt.	Little wind, and cloudy. Whales, peng. & ice.
☽ —— 28.	33	29,07	35		Eaſt.	Briſk wind, and cloudy. No ice ſeen.
♂ —— 29.	31¾	29,2	36		Variable.	Mod. wind, with ſnow. Many peng.; ſome ice.
☿ —— 30.	33½	29,07	36½		S. E.	Little wind; ſnow and ſleet. Seals and peng.
♃ —— 31.	31	29,0	31½	31	S. E.	Briſk wind, and cloudy. Pengu. ſeals, &c.
1773.						
♀ Jan. 1.	31	28,95	31½	31	S. W.	Briſk wind, with ſleet. Some ice and peng.
♄ —— 2.	31	29,55	32		Variable.	Briſk wind, and cloudy. Whales, peng. & ice.
☉ —— 3.	31	29,37	31		N. E.	Briſk wind; ſnow and ſleet. The rigging ſo cumbered with ice, that the ſhip was worked with the utmoſt difficulty, and many people were hurt by its falling.
☽ —— 4.	32	29,5	33	33	N. W.	Briſk wind, with ſleet. The rigging ſtill loaded with ice.
♂ —— 5.	33½	29,4	34		N. W.	Briſk wind, and cloudy. One ice iſland only.
☿ —— 6.	33¼	29,17	34½		N. W.	Ditto. Few ice iſlands.
♃ —— 7.	34	29,07	35		N. W.	Briſk wind; ſnow and ſleet. One ice iſland.
♀ —— 8.	33¾	29,12	34¼		N. W.	Mod. wind, and cloudy. Several ice iſlands.
♄ —— 9.	33½	29,22	35		N. W.	Light breezes, and cloudy, with ſnow at times. Took up a great quantity of ice to melt for water. That water melted from the ice uſually found floating in the ſea is freſh and good, is no new diſcovery. The Hudſon's Bay ſhips have long made uſe of it; and I have mentioned it, from my own experience, in the account of a Voyage to Hudſon's Bay. See Phil. Tranſ. vol. lx. for the year 1770.
☉ —— 10.	31½	29,25	34		North.	Mod. wind, and cloudy, with ſnow at times.
☽ —— 11.	34	29,27	35½		Eaſt.	Ditto, and cloudy. Several ice iſlands.

1773	Morn Ther	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
♂ Jan 12	35	29 20	35		S S W	Moderate wind and cloudy, with ſnow. Took up more ice for water. A thermometer which ſtood at 37 in the open air, ſtood at 33½ in the water, at the ſurface and at 32 when drawn up from 100 fathoms below it. Whilſt we were waiting for the boats, many large pieces were broke off by the ſea from a very large Ice Iſland which was near us, ſo that it is plain thoſe huge maſſes of Ice can exiſt but for a ſhort time
☿ —— 13	34¼	29,3	38		S E	Calm. Cloudy, with ſnow. Some Ice Iſl
♃ —— 14		29,17	35¼		S E	Little wind, and cloudy. Some Ice Iſlands
♀ —— 15	35	29 07	42	34½	S E	Little wind, with ſnow at times
♄ —— 16	34	29,05	35	34+	S E	Briſk wind, and cloudy, with ſleet
☉ —— 17	33¼	29 1	34		S E	Briſk wind, and foggy. Tacked from a very large, and apparently firm field of ice, amidſt an amazing number of very large Ice Iſlands
☽ —— 18	32	28,95	34¼	33	S E	Briſk wind, with ſleet. Little ice
♂ —— 19	35	29 1	35	34⊥	S E	Briſk wind, and cloudy. Few Ice Iſlands
☿ —— 20	33+	28,67	33⊥	33⊥	S E	Ditto. Several Ice Iſlands
♃ —— 21	35	28,55	35⊥	35½	S W	Moderate wind, ſnow and ſleet. Several Ice I
♀ —— 22	35+	28 95	37¼		S W	Moderate wind with ſleet. The two time keepers being put one on each ſide of the great cabbin, I put a thermometer by each, and before a fire was kept in the cabbin, I never ſaw them differ more than half a degree; but ſince there has been a fire, I have conſtantly found that thermometer higheſt which happened to be on the weather ſide, ſometimes by 3, whereas one would naturally have expected it to have been juſt the contrary. Much ice
♄ —— 23	35	29 02	36⊥	35½	S W	Briſk wind. Hail, ſnow and ſleet. Some ice
☉ —— 24	34¼	29 27	34⊥	34½	N E	Briſk wind, and cloudy. Several Ice Iſlands
☽ —— 25		28,85	36¼	35	S E	Briſk wind, and foggy. Little ice
♂ —— 26	34	28,27	35	35⊥	S W	Little wind; foggy, with rain. No ice
☿ —— 27	35⊥	28,9	35	36	N W	Little wind, and flying clouds. Some Ice I
♃ —— 28	38	29,42	36⊥	36½	N W	Briſk wind, with ſleet, ſnow and rain. Several Ice Iſl
♀ —— 29	37	29,65	38	37⊥	North	Strong wind, with rain, and very thick fog
♄ —— 30	38⊥	29,57	39⊥	40	N W	Strong wind, with thick fog, and rain
☉ —— 31	38	29 55	38¼	39	N W	Strong wind, and cloudy. Some ice
☽ Feb 1	40⊥	29,9	41⊥	40	N W	Briſk wind, and cloudy. Penguins and dive
♂ —— 2	43	29 92	45⊥	46¼	North	Briſk wind, and foggy, with rain at times
☿ —— 3	43⊥	29,8	46	46	N W	Moderate wind, and hazy. Sea weed & div
♃ —— 4	42⊥	29,65	45	43½	N W	Moderate wind, and cloudy
♀ —— 5	40	29,6	41	41	N W	Ditto
♄ —— 6	43	29 47	43¼	44¼	N W	Briſk wind, and drizzling rain
☉ —— 7	44	29 7	44	45	N E	Briſk wind, and cloudy
☽ —— 8	40	29,25	43¼		N E	Briſk wind and thick fog; Rain at times. Penguins
♂ —— 9	43⊥	28 85	45		N W	Strong wind, and foggy, with rain. Penguins
☿ —— 10	40	29,45	41⊥	41	N W	Strong wind, and cloudy
♃ —— 11	40	29,17	40		N W	Briſk wind, with rain. Many penguins
♀ —— 12		29,55	38	38	S W	Briſk wind, and clear weather. Many penguins
♄ —— 13	35	29,6	36	38½	Weſt.	Ditto. Many penguins
☉ —— 14	35⊥	29,37	35⊥	36	S W	Moderate wind, ſnow and ſleet. Saw a ſeal
☽ —— 15	35	29,4	36⊥	36¼	S W	Briſk wind, and cloudy. Several ſeals
♂ —— 16	35	29 5	34		Eaſt	Little wind with ſnow. Mr Pickerſgill ſaw ſouth light

1773.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☿ Feb. 17.	33½	29,02	35		S. S. W.	Moderate wind, and cloudy, with ſnow. About one o'clock in the morning Mr. Clerke, who had the watch, told me that the ſame appearance which Mr. Pickerſgill had ſeen the night before was very bright. I got up, and found it to be the very ſame phenomenon which we call the Northern Lights in England. The natural ſtate of the heavens, except in the S. E. quarter, and for about 10° of altitude all round the horizon, was a whitiſh haze, through which ſtars of the third magnitude were juſt diſcernable. All round, the horizon was covered with thick clouds, out of which aroſe many ſtreams of a pale reddiſh light, that aſcended towards the zenith. Theſe ſtreams had not that motion which they are ſometimes ſeen to have in England; but were perfectly ſteady, except a ſmall tremulous motion which ſome of them had near their edges. Took up ice for water.
♃ —— 18.	32	29,12	33	33	S. W.	Moderate wind, and cloudy. Several Ice Iſl.
♀ —— 19.	33½	29,2	35	33½	S. W.	Briſk wind, and ſqually, with ſnow at times. Many large Ice Iſlands. In the night the ſouthern lights were very bright at times, and the colours much more various and vivid than they were on Wedneſday night, their motion alſo was greater, ſo that on the whole they were extremely beautiful.
♄ —— 20.	32½	29,3	35		W. S. W.	Moderate wind, and hazy. Many large Ice Iſlands, and a ſtrong appearance of land to the weſtward, which proved only a fog-bank. At nine o'clock in the evening the ſouthern lights ſprung up very bright about the eaſt point of the horizon, in a ſingle ſteady pillar, of a pale reddiſh light. Its direction was not directly towards the zenith, but gradually deflected towards the ſouth, and grew fainter as it aſcended, ſo as to vaniſh about S. E. and at 45° of altitude.
☉ —— 21.	34½	29,42	36½		N. E.	Little wind, with ſnow. Many Ice Iſlands.
☽ —— 22.	45½	28,82	34		S. E.	Ditto.
♂ —— 23.	34	28,72	35	33½	S. E.	Strong wind, with ſnow, and ſo thick a fog, at times, that we could ſcarcely ſee a ſhip's length, and at the ſame time were ſurrounded with a prodigious number of very large iſlands of ice. In the morning I ſaw one burſt, in an inſtant, into three large, and a great many ſmall pieces. It made no report, or at leaſt ſo ſmall a one that we could not hear it for the noiſe of the ſea, and the whiſtling of the wind in the rigging.
☿ —— 24.	34	28,55	35	35	Variable.	Strong wind, with ſleet. Many large Ice Iſl.
♃ —— 25.	35	29,0	36½	36½	N. E.	Little wind, and cloudy, with ſnow. Several Ice Iſlands.
♀ —— 26.	35	29,1	36½	33	South.	Little wind, and cloudy. Saw the South. lights.
♄ —— 27.	34	28,42	34½		S. W.	Strong wind, with ſleet. Whales and ice.
☉ —— 28.	35½	29,0	36½		Variable.	Strong wind, and foggy. Porpoiſes and ice.
☽ March ——	35	28,35	35½	36½	N. E.	Briſk wind, with ſnow. Several Ice Iſlands.
♂ —— 2.	37	28,55	38		S. W.	Little wind, thick fog, and rain.
☿ —— 3.	36	29,05	38		Variable.	Little wind, and foggy. Several penguins.
♃ —— 4.	35½	28,82	36		N. W.	Briſk wind, with ſnow and rain.
♀ —— 5.	36	28,87	37½		S. E.	Moderate wind, and foggy, with rain. Many iſlands of ice. One in particular, which we paſſed in the afternoon, was near a mile and half long, and very high: It was calm moſt part of the night, ſo that we found ourſelves very near it in the morning, but obſerved that ſeveral very large pieces had broke off from it. Many great reports, like thunder, were heard in the night, which I conceive were occaſioned by theſe pieces breaking off.

1773	Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c.
♀ March 5	An almoſt univerſal diſſolution began, about this time, to take place among theſe vaſt and, to us, tremendous bodies of frigid matter One huge Ice Iſland					
♄ —— 6	36½	28,95	37	37	Variable	Moderate wind and cloudy Saw the ſouthern lights
☉ —— 7	35¼	28,57	34½		South	Little wind, with ſleet Saw the South lights
☽ —— 8	35½	28 92	40		S. E	Little wind and cloudy
♂ —— 9	36½	28,62	37	35	S W	Strong wind, and ſqually, with rain and ſleet
☿ —— 10	33	29,0	35		Variable	Briſk wind and cloudy Saw ſea weed
♃ —— 11	35	29,15	37		Eaſt	Moderate wind, with ſnow and ſleet
♀ —— 12	37½	28,97	39½	37	S E	Moderate wind, with drizling rain
♄ —— 13	35	28,7	36½	35	Variable	Moderate wind Snow and rain
☉ —— 14	31½	28,87	33		S W	Briſk wind Snow and rain
☽ —— 15	31¼	28,85	34		Weſterly	Moderate wind and cloudy The ſouthern lights very bright at times, and exceeding beautiful Their colours being vivid, and their motion quick and curious
♂ —— 16	33¼	29,12	35½	36	S S W	Briſk wind, and ſqually, with ſnow
☿ —— 17	34	29,45	35½		N W	Briſk wind, and cloudy
♃ —— 18	39	29,82	41½		Weſt	Briſk wind, with rain at times A little after nine o clock in the evening it was very clear and the ſouthern lights were exceeding bright and beautiful, and appeared of a ſemi circular, or rainbow like form, whoſe two extremities were nearly in the eaſt and weſt points of the horizon This bow, when it firſt made its appearance paſſed a conſiderable way to the north of the zenith; but roſe by degrees, turning, as it were, on its diameter, and paſſing through the zenith ſettled at length, towards the ſouthern horizon Theſe lights were at one time ſo bright, that we could diſcern our ſhadows on the deck
♀ —— 19	41½	29,82	43		N W	Briſk wind and cloudy Sea weed peng and porpoiſes
♄ —— 20	45½	29,75	45		Weſt	Strong wind, and hazy
☉ —— 21	45½	29,95	46		N W	Briſk wind, and cloudy; ſaw ſeals & ſea weed
☽ —— 22	45½	29,85	47		S E	Briſk wind with ſhowers
♂ —— 23	47	30,17	49	49	Ditto	Briſk, and cloudy
☿ —— 24	50	29,95	52¼	54½	Ditto	Mod wind & foggy with rain Saw ſea weed ſhel &c
♃ —— 25	52	29,85	54	52½	Variable	Briſk wind and ſqually with rain
♀ —— 26	52	30,15	53½		S W	Moderate wind, and fine weather
♄ —— 27	60	30,28	55		Weſterly	Ditto with ſhowers
☉ —— 28	65	30,38	56½		N W	Ditto, and much rain
☽ —— 29		30,41	60		N W	Ditto, with frequent ſhowers
♂ —— 30		30,36	61		North	Strong wind and heavy rain
☿ —— 31		30,14	62½		North	Moderate wind with heavy ſhowers
♃ April 1		30,03	61		N W	Ditto, and fine weather
♀ —— 2		29,75	56¼		N W	Ditto, and ſhowers
♄ —— 3		29,71	58		N N W	Briſk wind, with drizling rain
☉ —— 4		29,65	58		N N W	Moderate wind, with ſome heavy ſhowers
☽ —— 5	48	29,98	54		Variable	Briſk wind, with heavy ſhowers
♂ —— 6	46½	30,24	60½	58½	Ditto,	Moderate wind, with much rain
☿ —— 7	49	30,39	52		Ditto	Ditto, with conſtant heavy rain
♃ —— 8	48	30,22	50½		Ditto	Ditto, and rain without intermiſſion
♀ —— 9	51	30,04	52		Weſterly	Ditto
♄ —— 10	50	29,92	51½		N W	Ditto

1773.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☉ April 11.	48	30,13	54	53	Variable.	Little wind, with frequent ſhowers.
☽ —— 12.	47½	30,20	50		Weſterly.	Little wind, and almoſt continued heavy rain.
♂ —— 13.	50½	30,18	58		Ditto.	
☿ —— 14.	52½	29,82	53		Ditto.	
♃ —— 15.	50½	29,99	53		Ditto.	
♀ —— 16.	51	30,04	58	54¾	Ditto.	
♄ —— 17.	55	29,90	56	56	Ditto.	
☉ —— 18.	53½	29,95	58¾	57½	Eaſterly.	Little wind, and fine weather.
☽ —— 19.	50½	29,85	57½		Ditto.	Ditto.
♂ —— 20.	50	29,77	57¾	56	Ditto.	Ditto.
☿ —— 21.	46½	29,68	55	56	Ditto.	Ditto.
♃ —— 22.		29,67	53	45	Ditto.	Moderate wind, and heavy ſhowers.
♀ —— 23.		29,76	52½		Weſterly.	Gentle breezes, with ſome ſhowers.
♄ —— 24.		29,82	53½		Ditto.	
☉ —— 25.		29,95	33¾		Ditto.	Little wind, and fine clear weather.
☽ —— 26.		29,88	51½		N. E.	Moderate wind, with much rain.
♂ —— 27.		30,02	50		N. W.	Ditto, with heavy ſhowers.
☿ —— 28.		30,25	47		Weſterly.	Light breezes, and cloudy, with ſhowers.
♃ —— 29.		30,24	48¾		Ditto.	Ditto.
♀ —— 30.		30,38			N. E.	Ditto.
♄ May 1.		30,39	50½		Variable.	Ditto, with drizzling rain.
☉ —— 2.		30,42	51			Calm, with ſhowers.
☽ —— 3.		30,23	48			Calm, with continued heavy rain.
♂ —— 4.		29,98	51½		Variable.	Gentle breezes, with frequent ſhowers.
☿ —— 5.		29,96	46		S. W.	Ditto, with ſmart ſhowers of rain.
♃ —— 6.		30,42	51		N. W.	Moderate wind, with ſhowers.
♀ —— 7.		30,23	50¾		N. W.	Strong wind, thunder, lightning, hail & rain.
♄ —— 8.		30,02	49½		Variable.	Briſk wind, and flying clouds, with ſhowers.

I had frequently to-day, an opportunity of viewing a very curious phænomenon; namely, the deſcent of the ſnow on the tops of the prodigiouſly high, and almoſt perpendicular hills which every where ſurrounded us. The atmoſphere, in general, was pretty clear, except ſome very thick whitiſh clouds, which were continually flying over us. When theſe came near any hill, they began to extend themſelves towards it, and were drawn out into a ſort of conical form, the vertex of which was towards the hill. By degrees, the cloud gathered round the top of the hill, and entirely covered it; from which time the cloud grew viſibly leſs denſe, and in a little time was totally diſperſed; when it appeared that all the part of the hill which had been immerſed in the cloud was covered with ſnow.

1773.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☉ —— 9.		30,35	49		N. E.	Briſk wind, and flying clouds.
☽ —— 10.		30,01	53		N. E.	Ditto, with ſhowers of hail and rain.
♂ —— 11.		30,27	44½		S. W.	Moderate wind, and flying clouds.
☿ —— 12.	46	30,32	49		N. W.	Ditto, with ſhowers.
♃ —— 13.	53	30,3	55		S. W.	Briſk wind, and cloudy.
♀ —— 14.	56	30,47	58		S. E.	Little wind, and hazy weather.
♄ —— 15.	53	30,3	56		N. E.	Ditto.
☉ —— 16.	56	29,75	59		Weſterly.	Briſk wind, in ſqualls, with rain.

1773	Morn. Therm.	Noon Barom.	Noon Therm.	Even. Therm.	Winds.	Weather, &c.
☽ May 17	51½	29,65			Southerly	Moderate wind, and flying clouds.

This afternoon we had an opportunity of obſerving, in as complete a manner as could be wiſhed, one of the moſt curious, and perhaps the moſt extraordinary and powerful, of Nature's productions.

The forenoon had been in general pretty clear, but ſubject to heavy ſqualls of wind, and ſome flying clouds, which were very black and heavy, and moved with great velocity from the S. W. towards the N. E. (the direction of the wind). About four o'clock in the afternoon it became calm, and the heavens were almoſt covered with very black clouds, particularly towards the W. and N. W. and preſently after we ſaw ſeveral tail-like appearances, depending from the clouds in that quarter. Theſe appearances were whiter than the clouds they hung from, which made them very conſpicuous; and they increaſed gradually, in length, until they extended, as near as I could judge, about one ſixth part of the diſtance between the cloud and the ſurface of the ſea. About this time, the water under them began to be violently agitated, and lifted up with a whirling motion towards the impending part of the cloud, which, on account of a motion they all had the contrary way to that the wind had blown, was not directly over it, but a little towards the S. W. As the water roſe, the end of the cloud deſcended, and in a little time they joined; after which the water appeared to me to aſcend out of the ſea, into the cloud, with great velocity. I think that none of theſe ſpouts, as they are uſually called, continued entire more than ten minutes; perhaps not quite ſo long. I ſaw four complete at one time; but there were great numbers which began to form, and were diſperſed, by what cauſe I know not, before the cloud and water joined. One of them came, I was told, within 30 or 40 yards of the ſhip, which lay becalmed; but I was then below looking at the Barometer: when I got upon deck, it was about 100 fathoms from her. It is impoſſible to ſay what would have been the conſequences if it had gone over her; but I believe they would have been very dreadful. At the time when this happened, the Barometer ſtood at 29,75 inches, and the Thermometer at 56.

The whole of this paſſed within the ſpace of an hour, or thereabouts; for at five o'clock a ſmall breeze of wind ſprung up in the S. E. quarter, and diſperſed every appearance of this kind, although the black clouds remained until about ten, when the wind veered round to the W. S. W. and ſettled there in a moderate ſteady gale, and the weather cleared up. The annexed plate, N° 4, was engraved from a drawing of Mr. Hodges, taken at the time; in which he has exhibited the appearance of one of them in three ſeveral ſtates, and alſo the appearance of that which approached ſo near to the ſhip.

1773	Morn. Therm.	Noon Barom.	Noon Therm.	Even. Therm.	Winds.	Weather, &c.
♂ —— 18		29,57	49		S. W.	Little wind, and fine weather.
☿ —— 19		29,69	55		Ditto	Ditto.
♃ —— 20		29,98			Northerly	Moderate wind, and cloudy.
♀ —— 21		30,11	57		Variable	Ditto, and moſtly cloudy.
♄ —— 22		30,11	56½		Northerly	Ditto, and cloudy.
☉ —— 23	55	30,16	55½		S. W.	Little wind, and fine weather.
☽ —— 24	50	30,35	53	56	Weſterly	Briſk wind, and fine weather.
♂ —— 25		30,15	56		S. W.	Ditto, and cloudy weather.
☿ —— 26		29,69	57½		Ditto	Ditto
♃ —— 27		29,68	58		Ditto	Ditto
♀ —— 28		29,66	58		Ditto	Ditto

1773.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♄ May 29.		29,77	56¼		S. W.	Brisk wind, and cloudy weather.
☉ —— 30.	54	29,81	57¼	57¼	Westerly.	Moderate wind, and fine weather.
☽ —— 31.		30,02	51½		S. W.	Ditto, and mostly cloudy, with showers.
♂ June 1.		30,28	50½		W. S. W.	
☿ —— 2.		30,20	49		S. W.	
♃ —— 3.	48	30,20	51½	54¼	Ditto.	Ditto, and fine weather.
♀ —— 4.		30,4	51¼		Southerly.	Ditto, and cloudy.
♄ —— 5.		30,41	49½		S. S. E.	Strong wind, with rain.
☉ —— 6.		30,3	51½		Ditto.	Ditto.
☽ —— 7.		30,15	55		North.	Moderate wind, and fine weather.
♂ —— 8.	51½	29,90	52	52	Ditto.	Ditto.
☿ —— 9.	53¼	29,82	55		Ditto.	Ditto.
♃ —— 10.	52½	29,7	54		Ditto.	Ditto.
♀ —— 11.	51½	29,77	51½		Ditto.	Moderate wind, and cloudy, with rain.
♄ —— 12.	49½	29,67	51½		Variable.	Moderate wind, with rain.
☉ —— 13.	50	30,0	51½		S. E.	Moderate wind, and cloudy; rain at times.
☽ —— 14.	49¼	29,65	49		S. W.	Moderate wind, with drizzling rain.
♂ —— 15.	46	29,7	48½	48	East.	Ditto.
☿ —— 16.	48½	29,75	49		S. E.	Brisk wind, with rain.
♃ —— 17.	49½	29,75	49½		Ditto.	Brisk wind, and cloudy; rain at times.
♀ —— 18.	49½	29,8	48	47½	Ditto.	Brisk wind, and cloudy weather.
♄ —— 19.	47	30,12	48		South.	Moderate wind, and cloudy.
☉ —— 20.	48	30,15	48½		S. W.	Ditto.
☽ —— 21.	48	30,27	50½		Ditto.	Ditto.
♂ —— 22.	50½	30,35	52½		N. W.	Ditto.
☿ —— 23.	49½	30,27	50½		East.	Ditto.
♃ —— 24.	51½	29,47	51½		Ditto.	Strong wind, with rain.
♀ —— 25.	54	29,22			N. E.	Brisk wind, with rain.
♄ —— 26.	54	29,27	55½		East.	Ditto, and cloudy.
☉ —— 27.	52½	29,12	53½		S. W.	Little wind, and foggy.
☽ —— 28.	52	29,4	52½	50½	Variable.	Ditto.
♂ —— 29.	51	29,4	52½	51½	Ditto.	Moderate wind, and cloudy.
☿ —— 30.	49½	29,65	51½		South.	Ditto.
♃ July 1.	48	29,75	49	49½	Ditto.	Moderate wind, and flying clouds.
♀ —— 2.	45	29,8	47		N. W.	Ditto, and fine weather.
♄ —— 3.	48	29,62	49½	49	N. E.	Ditto, with showers.
☉ —— 4.	49½	29,75	48½	49	S. E.	Ditto, and fine weather.
☽ —— 5.	48	29,85	48	49½	Ditto.	Brisk wind, with rain.
♂ —— 6.	50½	29,67	51		Ditto.	Ditto, and cloudy.
☿ —— 7.	51	29,47	52½		West.	Moderate wind, and fine weather.
♃ —— 8.	51½	29,45	51½	51½	S. W.	Ditto, with showers.
♀ —— 9.	49	29,85	50½	51	N. W.	Ditto, and cloudy.
♄ —— 10.	52½	29,82	51		South.	Brisk wind, and cloudy: rain at times.
☉ —— 11.	45	30,3	47	47½	S. W.	Moderate wind, and fine weather.
☽ —— 12.	47	30,27	49	49	West.	Ditto.
♂ —— 13.	47½	30,27	49½	49	Variable.	Little wind, and fine weather.
☿ —— 14.	48	30,1	50		N. E.	Moderate wind, and cloudy.
♃ —— 15.	49½	29,65	52		South.	Moderate wind, rain, and thick fog.

1773		Morn. Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
♀	July 16	46	29,5	46	46½	South	Briſk wind, and cloudy with rain at times
♄	—— 17	44	29,8	44¼	45	Ditto	Ditto, with ſhowers of hail and rain
☉	—— 18	47½	30,2	49¼	49	S W	Moderate wind, and fine weather
☽	—— 19	51¼	30,32	54	~~58¼~~	South.	Ditto
♂	—— 20	52½	30,15	58¼		Eaſt	Moderate wind, and cloudy
☿	—— 21	56¼	29,62	59½	61	Ditto	Briſk wind, and foggy
♃	—— 22	61	29,62	63	62¼	Weſt	Moderate wind, and fine weather rain at times
♀	—— 23	61½	29,85	63½		N. W	Ditto, and cloudy, with rain
♄	—— 24	65	29,85	64½		Ditto	Strong wind in ſqualls with rain
☉	—— 25	66	29,82	65½	62	Ditto	Strong wind, and heavy rain
☽	—— 26	66	29,90	66½	67	Ditto	Moderate wind, and fine weather
♂	—— 27	67½	30,07	67½	69	Variable	Ditto, and hazy
☿	—— 28	66	30,05	69	68	N W	Little wind, and fine clear weather
♃	—— 29	68	29,97	69½	70	Ditto	Moderate wind, and hazy weather
♀	—— 30	68¼	29,92	71		Ditto	Ditto and cloudy, with rain
♄	—— 31		29,92	68	68	Ditto	Little wind and flying clouds
☉	Aug 1	68	29,77	68½		S W	Briſk wind, and ſqually, with ſhowers
☽	—— 2	68	29,87	69¼	70¼	Weſt.	Gentle breezes, and fine weather
♂	—— 3	69¼	30,05	71¼	72¼	N W	Ditto
☿	—— 4	72	30,05	74		Ditto	Moderate wind, and fine weather
♃	—— 5	76½	30,02	76½	77½	Ditto	Briſk wind, and fine weather
♀	—— 6	77	30,1	78		Variable	Little wind, and cloudy, with rain at times

After many wiſhes, and long expectation we this day got the S E Trade wind Its manner of coming on was rather remarkable About 10 o clock in the morning, a thick haze began to riſe in the Eaſtern quarter, which by noon was become ſo thick, and had ſpread ſo far, that it was with difficulty we got the ſun s meridian altitude; but the N W wind, which we had had for about a fortnight, during which time the weather was generally very fine and pleaſant, ſtill continued to blow In the afternoon we had ſome pretty briſk ſhowers, with which the N W wind died away, and it was calm till eight o'clock in the evening, when a briſk, ſteady gale ſprung up at S E, and proved permanent.

1773		Morn. Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
♄	—— 7	73	30,12	75		S E	Briſk wind, and cloudy
☉	—— 8	72¼	30,2	75		Ditto	Ditto, and fine weather
☽	—— 9	73	30,22	76½		Ditto	Ditto, with rain at times
♂	—— 10	74¼	30,2	78½	77½	Eaſt	Ditto, and cloudy
☿	—— 11	75	30,07	78½		Ditto.	Moderate wind, and fine weather
♃	—— 12	76¼	30,07	78½	79	Ditto.	Ditto
♀	—— 13	76¼	30,1	79½	79	Ditto	Ditto
♄	—— 14	78	30,12	79	79	Ditto	Ditto
☉	—— 15	77	30 1	80	80	Ditto	Ditto
☽	—— 16	79	30,07	80¼		Ditto	Light winds and moſtly fine weather
♂	—— 17	75	30,02	81½		S E	Ditto, very hot
☿	—— 18	73½	30,03	81	80	Variable	Ditto
♃	—— 19	73½	30,12	80	80	Ditto	Ditto
♀	—— 20	77½	30,1	79½	79¼	S E	Ditto
♄	—— 21	84½	30,05	82		Ditto	Ditto
☉	—— 22		30,02	81	80¼	N W	Strong wind, and cloudy weather
☽	—— 23	76½	30,05	78		Calm	Very clear, and extremely hot

1773.		Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♂	Aug. 24.	75¼	30,02	75¼		Variable.	Little wind, and cloudy, with showers.
☿	—— 25.	74¼	30,05	78		Ditto.	Ditto, and flying clouds.
♃	—— 26.		30,13			Variable.	Fine weather, and very hot.
♀	—— 27.	69¾		84½		Easterly.	Ditto.
♄	—— 28.		30,21	82	78	Ditto.	Ditto.
☉	—— 29.	75	30,2	90		Ditto.	Ditto.
☽	—— 30.	77½	30,2	91	83½	Ditto.	Ditto.
♂	—— 31.	79	30,16	93	89	Ditto.	Ditto.
☿	Sept. 1.		30,0			Variable.	Brisk wind, with flying clouds.
♃	—— 2.	76	29,95	77		Easterly.	Ditto.
♀	—— 3.	75	30,1	76½	77½	Ditto.	Moderate wind, and flying clouds.
♄	—— 4.		30,08	77	78	Ditto.	Ditto, and pleasant weather.
☉	—— 5.		30,08	77½	78½	Ditto.	Ditto.
☽	—— 6.		30,09	79		Ditto.	Ditto.
♂	—— 7.	77½	30,12	79½		Ditto.	Ditto.
☿	—— 8.	79	30,7	85		S. E.	Brisk wind, and very hot.
♃	—— 9.	77½	30,06	81	81½	Ditto.	} Moderate wind, with showers.
♀	—— 10.		30,05	80½		Ditto.	
♄	—— 11.	75	30,06	79½		Ditto.	Ditto, and fine weather.
☉	—— 12.	74½	30,13	77	77½	Ditto.	Little wind, and hot sultry weather.
☽	—— 13.	74½	30,12	77	76	Ditto.	Brisk wind, and fine pleasant weather.
♂	—— 14.	74	30,13	76½		Ditto.	Strong wind, with showers.
☿	—— 15.		30,07	77	75½	Ditto.	Ditto.
♃	—— 16.	77½	30,04	77½		Ditto.	Ditto.
♀	—— 17.	72½	29,95	78½	77½	East.	Brisk wind, and pleasant weather.
♄	—— 18.	77	30,07	79	79½	Ditto.	Moderate wind, and flying clouds.
☉	—— 19.	77	30,02	79½	79½	Ditto.	Ditto.
☽	—— 20.		29,97	81½		Ditto.	Mod. wind & cloudy; rain, thunder, & lightn.
♂	—— 21.	78½	30,0	81	80½	Variable.	Ditto, thunder, &c.
☿	—— 22.	74½	29,97	77½	76½	S. E.	Brisk wind, and cloudy, with rain.
♃	—— 23.	69½	30,05	73		Ditto.	Moderate wind, and cloudy.
♀	—— 24.	72½	30,05	74	74½	Ditto.	Brisk wind, and squally, with rain.
♄	—— 25.	72½	30,02	73½	73½	Ditto.	Ditto, and squally.
☉	—— 26.	71½	30,05	73	71	Ditto.	Ditto, and drizzling rain.
☽	—— 27.	71½	30,07	71	70	Ditto.	Ditto, and cloudy.
♂	—— 28.	71	30,07	72½		East.	Moderate wind, and fine weather.
☿	—— 29.	71½	30,07	72½	72½	Ditto.	Ditto.
♃	—— 30.	70	30,12	70	70	S. E.	Brisk wind, and fine weather.
♀	Oct. 1.	67	30,1	70	69	Ditto.	Ditto.
♄	—— 2.	67	30,12	71½	74	Ditto.	Ditto.
☉	—— 3.	70½	30,1	71½	69	Ditto.	Ditto.
☽	—— 4.	69	30,12	71½	72	Ditto.	Ditto.
♂	—— 5.	68	30,12	74½		Ditto.	Ditto.
☿	—— 6.	71½	30,05	75½	73½	Ditto.	Moderate wind, and flying clouds.
♃	—— 7.	72½	30,05	73	72½	Ditto.	Ditto.
♀	—— 8.	73½	29,95	76½	75	S. W.	Ditto.
♄	—— 9.	68½	30,30	73½		S. E.	Moderate wind, and cloudy.
☉	—— 10.	70	30,07	69½	70	Ditto.	Brisk wind, and ditto.

1773		Morn	Noon		Even	Winds	Weather &c
		Therm	Barom	Therm	Therm		
☽	Oct 11	69	30,25	69¼	69½	S E	Brisk wind, and cloudy
♂	— 12	69½	30,2	70½	70½	Ditto	Ditto
☿	— 13	66½	30,2	70		Ditto	Ditto
♃	— 14	66½	30,25	66½		East	Moderate wind, and cloudy
♀	— 15	65	30,32	68½	70	Ditto	Brisk wind, and cloudy at times
♄	— 16	65	30,27	68	67	N E	Moderate wind and clear weather
☉	— 17	63¼	30,26	69	66	Ditto	Little wind, and fine weather
☽	— 18	64	30,2	60		Ditto	Brisk wind, and ditto
♂	— 19	64¼	30,02	66½		Variable	Ditto, and mostly cloudy showers
☿	— 20	61¼	29,72	60¼	61¼	West	Ditto, and flying clouds
♃	— 21	59¼	29,7	62	63¼	N W	Ditto
♀	— 22	58	29,17	59¼	60½	S W	Brisk wind, and cloudy
♄	— 23	51¼	29,6	53½	58	West	Strong wind, and cloudy, with rain
☉	— 24	57½	29,37	60½	62	N W	Strong wind, and cloudy The water in Dr Lind's Wind gage was depressed 8 10ths of an inch at times We were now under bare poles
☽	— 25	58	29,15	59½		S W	Strong wind, and cloudy weather
♂	— 26	54¼	29,52	54	53	Variable	Brisk wind, and cloudy
☿	— 27	52¼	29,57	58	56	N W	Very strong wind and cloudy
♃	— 28	56	29,12	58	56½	Westerly	Ditto, lightning
♀	— 29	51¼	29,62	52¼	53	N W	Ditto
♄	— 30	54	29,4	58¼		Ditto	Ditto
☉	— 31	55¼	29 22	57		Variable	Ditto
☽	Nov 1	54¼	29,22	50½		Ditto	Brisk wind, with rain and thick fog
♂	— 2	52	29,45	51¼		S E	Strong wind, and cloudy, with showers
☿	— 3	51¼	29,85	58½	58¼	Variable	Little wind, and fine weather
♃	— 4	54	29,82	62¼		Ditto	Moderate wind, with showers
♀	— 5		29,67			Ditto	Brisk wind, with rain, and very cold
♄	— 6	52	30,06	61	55¼	Ditto	Moderate wind, and cloudy weather
☉	— 7		30,2	67		Northerly	Brisk wind, and fine weather, mostly
☽	— 8	52	29,98	56		Southerly	Cloudy, with rain, and cold raw weather
♂	— 9	50	30,2	59	56½	Ditto	Wind moderate, and weather warmer
☿	— 10	60	29 8	52¼	61	Variable	Mostly cloudy, with showers
♃	— 11		30,08	51¼		Ditto	Much rain and cold disagreeable weather
♀	— 12	61	30,51	67½	61	Ditto	Moderate wind, and cloudy
♄	— 13	56¼	30,40	69½	64	Southerly	Ditto, and fine weather
☉	— 14	56¼	30,33	70	65¼	Ditto	Ditto, and fine weather
☽	— 15	61	30 17	67	61½	Ditto	Ditto, and fine weather
♂	— 16	61	30,09	69½	70½	Ditto	Ditto, and fine weather
☿	— 17		29 99	76		Northerly	Brisk winds with rain
♃	— 18	70¼	29,7	73½	71½	N W	Strong wind with ditto
♀	— 19	65	29,5	6[illegible]		Ditto	Brisk wind, with ditto
♄	— 20	51½	29 7	62	47½	S W	Moderate wind and mostly cloudy showers
☉	— 21		29,95	60		N W	Ditto, with heavy rain at times
☽	— 22		30,2	61		Ditto	Wind moderate, and fine pleasant weather
♂	— 23		30,29	61		Ditto	Moderate wind, and ditto
☿	— 24		30,29	66		Variable	Ditto, and flying clouds showers
♃	— 25		30 31	61¼		N W	Brisk wind, and fine weather
♀	— 27	61	30 17	63¼		North	Moderate wind and cloudy

1773.		Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♄	Nov. 27.	63½	29,97	62	61	Variable.	Brisk wind, and flying clouds.
☉	—— 28.	54	30,2	56		North.	Little wind, and hazy. Rain at times.
☽	—— 29.		30,1	55	54½	S. W.	Mod. wind, and cloudy. Sticks & sea-weed.
♂	—— 30.	48	29,97	49	49	Ditto.	Brisk wind, and cloudy.
☿	Dec. 1.	48	30,0	49½		Ditto.	Ditto, with fog.
♃	—— 2.		29,92	46½		Ditto.	Mod. wind, and foggy. Peng. and sea-weed.
♀	—— 3.	44	29,6	47		N. W.	Ditto. Penguins and seals.
♄	—— 4.	46¼	29,8	47½		S. E.	Little wind, with fog and rain. Penguins.
☉	—— 5.	45	29,75	46½	46½	Easterly.	Little wind, and fine weather Seals.
☽	—— 6.	47¼	29,55	49		North.	Mod. wind, and foggy. Seals and sea-weed.
♂	—— 7.	48	28,95	49	48¼	N. W.	Brisk wind and foggy, with rain. Drift-wood.
☿	—— 8.	50	29,45	43½	43	N. W.	Strong wind, and foggy.
♃	—— 9.	44¼	29,72	44½	43½	S. W.	Ditto, with rain.
♀	—— 10.	36½	29,45	36½	35½	Westerly.	Ditto, with sleet.
♄	—— 11.	38½	29,07	39¼	39½	S. W.	Brisk wind, with rain and snow. Saw an ice isl.
☉	—— 12.	31¼	29,07	32½	35	Ditto.	Brisk wind, and squally. Snow and hail.
☽	—— 13.	30	28,92	32		West.	Brisk wind, and foggy. Much snow and ice.
♂	—— 14.	31¼	29,07	34¼	35	Ditto.	Ditto. Much ice.
☿	—— 15.	43	28,87	31		Ditto.	Brisk wind, with snow. Many ice isles.
♃	—— 16.	29½	29,42	33		N. E.	Mod. wind, and cloudy: snow. Took up ice for water.
♀	—— 17.	31½	29,07	33¼	33	North.	Mod. wind, and foggy: snow at times. Ice.
♄	—— 18.	33	29,0	33		Ditto.	Ditto, and thick fog. Several ice islands.
☉	—— 19.	33	28,8	34		Ditto.	Ditto, and foggy. Much ice.
☽	—— 20.	33	29,2	33		N. E.	Ditto, and cloudy. Much loose ice.
♂	—— 21.	33	28,7	34		Ditto.	Brisk wind, thick fog, and sleet. Many* ice isl.
☿	—— 22.	31½	28,95	33		North.	Ditto, and foggy. Many ice islands.
♃	—— 23.	31¼	29,22	35	29½	Ditto.	Mod. wind, and foggy. Abundance of ice.
♀	—— 24.	31½	28,62	32	33	N. W.	Ditto. Many islands of ice.
♄	—— 25.	33	29,2	34		Ditto.	Little wind, and cloudy. 96 ice isles seen at one time.
☉	—— 26.	35	29,17	37	35	Ditto.	Ditto. 200 ice isles seen at one time.
☽	—— 27.	36	29,0	35	34	N. E.	Ditto. Much ice: Took some up for water.
♂	—— 28.	32	28,65	33¼		S. E.	Brisk wind, with snow. Some ice islands.
☿	—— 29.	33½	28,62	33	34½	Southerly.	Mod. wind, much snow, and many ice isl.
♃	—— 30.	32	28,77	34¼	37	S. W.	Little wind, and cloudy. Few ice islands.
♀	—— 31.	33	29,05	35½	35	Variable.	Little wind, and cloudy, with sleet at times.

. To-day, while we were observing the meridian altitude of the sun, a shower of snow came from the west, and passed a-head of the ship; during which, a large island of ice, considerably within the visible horizon, and directly under the sun, was entirely hid by it; yet the horizon appeared as distinct, and much the same as it usually does in dark hazy weather. When the shower was over, I found that it required the sun to be dipped something more than his whole diameter to bring his lower limb to the nearest edge of the ice island, which must have been farther off than the visible horizon, during the shower; and yet this would have been taken as the real horizon, without any suspicion, if it had been every where equally obscured. Hence may be inferred the uncertainty of altitudes taken in foggy, or what seamen, in general, call hazy weather.

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1774		Morn. Therm.	Noon Barom.	Noon Therm.	Even. Therm.	Winds	Weather
♄	Jan 1	34	28,87	36½	37½	S W	Moderate wind, and cloudy, with snow
☉	—— 2	34½	29,05	38½		S E	Ditto
☽	—— 3	36½	29,12	36	39	N W	Brisk wind, with snow and sleet
♂	—— 4	44½	29,27	46½		Ditto	Ditto, and foggy, with rain
☿	—— 5	47	29,22	46½		Ditto	Strong wind, and cloudy. Rain at times
♃	—— 6	46	29,22	47	50	Ditto	Brisk wind, and cloudy. Sea weed
♀	—— 7	47½	29,25	50	50½	Ditto	Brisk wind, and flying clouds
♄	—— 8	47½	29,47	49½	50	West	Ditto
☉	—— 9	49	29,7	51		Ditto	Ditto. Many birds
☽	—— 10	49	29,52	52		Ditto	Mod. wind, and flying clouds. Many birds
♂	—— 11	48½	29,47	50	50	N W	Brisk wind, and squally, with showers
☿	—— 12	53	29,71	56	55	Ditto	Ditto, and flying clouds
♃	—— 13	5[illegible]	29,45	53		Ditto	Ditto, and foggy. Sea weed
♀	—— 14	51	29,41	51½	54	Ditto	Ditto, and foggy
♄	—— 15	48½	29,27	51		Ditto	Strong wind, and foggy, with rain
☉	—— 16	48	29,77	47½	49	West	Brisk wind, and hazy
☽	—— 17	43	29,67	41	41	Ditto	Ditto, with rain and sleet
♂	—— 18	40	28,9	40	41	Variable	Ditto, and foggy, with rain at times
☿	—— 19	39	28,6	39		Ditto	Ditto, with rain. Sea weed
♃	—— 20	47	28,52	40	38	S E	Ditto, and cloudy. Saw two ice islands
♀	—— 21	36	28,57	37	38	Ditto	Ditto, and cloudy, with sleet at times
♄	—— 22	36	28,7	37		S W	Mod. wind, snow and rain. Several ice islands
☉	—— 23	37	28,57	38		S W	Ditto, and cloudy. Sleet, and some ice islands
☽	—— 24	40½	28,57	39		N W	Brisk wind, and cloudy. One ice island
♂	—— 25	39	28,82	42½	39½	Ditto	Moderate wind, and foggy. Sleet
☿	—— 26		29,05	40	36	N E	Little wind, and cloudy. Several ice islands
♃	—— 27	37	28,71	37		Ditto	Mod. wind, and thick fog. Some ice islands
♀	—— 28	35	28,85	36	33	North	Ditto. Much loose ice
♄	—— 29	34	28,7	36	33	Easterly	Mod. wind & cloudy, with snow sometimes
☉	—— 30	31	28,8	32	32½	E N E	Ditto, and foggy, with snow

*** This morning we discovered a prodigious large field of ice right a head, extending east and west further than could be seen from off the main top-gallant yard. At a distance, the whole appeared very high, and like one solid fixed mass, with many exceeding high, mountainous parts in it; but when we came nearer, we found its edge which before appeared upright, and of one solid piece, scarce higher than the water, and composed of many small pieces close joined together with some pretty large ice islands amongst. I rather imagine it yet appeared high and mountainous, but probably this also was a deception caused by the very great refractive power of the atmosphere, near the horizon in those frigid regions; many instances of which I had occasion to mention in the account of my Voyage to, and residence in, Hudson's Bay. Let me add here once for all, that I have had abundant proofs of the effects of these extraordinary refractions on altitudes of the sun, &c. taken from the horizon of the sea with Hadley's Quadrant this voyage. For, universally, I believe, without a single exception, the east longitude shewn by the Watch K in the morning, fell short of that deduced from it in the afternoon, when both were reduced to the same time by the Log, and that sometimes by 10, 1[illegible], and even

1774.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.

15 minutes of longitude: I mean when we were in high latitudes; for, between the tropics, I seldom knew them differ more than 3 minutes, and not often so much as that.

1774.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☽ Jan. 31.	33	28,9	34	32½	N. E.	Mod. wind, and foggy. One ice island.
♂ Feb. 1.	35	28,85	35		Ditto.	Ditto, and cloudy. Several ice islands.
☿ —— 2.	35	28,75	37	33½	S. E.	Ditto. One ice island.
♃ —— 3.	32¾	28,9	35	34¼	Ditto.	Little wind, and cloudy.
♀ —— 4.	34	29,0	34½	34½	N. E.	Ditto, and mostly cloudy.
♄ —— 5.	37½	28,72	38¼	38¼	North.	Moderate wind, and cloudy, with snow.
☉ —— 6.	36	28,72	39¼		S. W.	Ditto, and cloudy: snow and hail.
☽ —— 7.	37	28,65	40	38	Ditto.	Ditto, and cloudy. Saw divers.
♂ —— 8.	39	29,62	41½		Ditto.	Brisk wind, and cloudy, with snow and rain.
☿ —— 9.	46½	29,12	47		Ditto.	Brisk wind, with rain.
♃ —— 10.	44	29,17	47	47	Ditto.	Strong wind, with clouds and rain.
♀ —— 11.	49	29,45	51	49¼	Westerly.	Very strong wind, and cloudy. The wa-

ter sunk in Dr. Lind's Wind-gage $\frac{9}{10}$ of an inch, during the squalls, which was the most I ever saw.

1774.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♄ —— 12.	47½	29,22	47¼	49	Westerly.	Moderate wind, and fine weather.
☉ —— 13.	49¼	30,0	52	51½	Ditto.	Ditto, and flying clouds.
☽ —— 14.	52	30,17	53	51½	Variable.	Ditto, and drizzling rain.
♂ —— 15.	51	30,07	54		N. W. by W.	Ditto, and foggy, with drizzling rain.

It may not be improper to remark, that in all our long trip to the southward this year, we never once saw the southern lights: indeed I do not recollect a single night that was clear enough.

1774.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☿ —— 16.	55	30,0	56		N. W.	Brisk wind, and foggy, with rain.
♃ —— 17.	53	29,92	55		Ditto.	Moderate wind, and cloudy.
♀ —— 18.	52	29,92	50½		S. W.	Strong wind in squalls, with rain.
♄ —— 19.	55	30,37	58½	59	West.	Moderate wind, and cloudy.
☉ —— 20.	61	30,42	66	66	Ditto.	Ditto, and fine weather.
☽ —— 21.		30,42	67½		S. W.	Ditto.
♂ —— 22.	68½	30,47	69		S. E.	Brisk wind, with showers.
☿ —— 23.	64¼	30,45	69	66½	North.	Moderate wind, and flying clouds.
♃ —— 24.	71	30,27	71		N. W.	Ditto.
♀ —— 25.	70	29,95	69	68½	S. W.	Moderate wind, and cloudy, with rain.
♄ —— 26.	65½	30,02	65	64¼	South.	Brisk wind, and cloudy.
☉ —— 27.	64½	30,2	68½	68	Easterly.	Moderate wind, and mostly cloudy.
☽ —— 28.	66¼	30,22	71½		Variable.	Ditto.
♂ March 1.		30,2	71¼	73½	West.	Little wind, and fine weather.
☿ —— 2.		30,17	74	74	N. W.	Ditto.
♃ —— 3.	71	30,22	74	75	N. W.	Ditto.
♀ —— 4.	74	30,3	74½	76	Ditto.	Ditto.
♄ —— 5.		30,3	75		Variable.	Ditto.
☉ —— 6.		30,3	74	73½	East.	Mod. wind, with showers. Saw many pieces of sponge.
☽ —— 7.		30,3	74½	74	Ditto.	Ditto, and flying clouds. Sponge & sea-weed.
♂ —— 8.	73¼	30,35	75¼		Ditto.	Ditto. Birds, sponge, sea-weed, &c.
☿ —— 9.	74½	30,37	77	76½	Ditto.	Ditto. Sea-snakes, sponge, leaves, & birds.
♃ —— 10.	73½	30,32	76¼	76	Ditto.	Ditto. Many birds, sea-weed, &c.
♀ —— 11.	75	30,3	75	75¼	N. E.	Ditto. Saw Easter Island.

1774	Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather
♄ March 12	75	30 27	75¼	75$^{\perp}$	Variable	Little wind, and flying clouds
☉ —— 13	75¼	30 4	74	74¼	S E	Moderate wind, and flying clouds
☽ —— 14	7 $^{\perp}$	30 27	74$_{\mathrm{T}}$	74$^{\perp}$	E S E	Ditto
♂ —— 15		30 37	73		Easterly	Little wind and very hot weather
☿ —— 16	71	30,22	75	76$^{\perp}$	N E	Ditto, and flying clouds
♃ —— 17	75$_{\mathrm{T}}$	30 3	77	76$^{\perp}$	Ditto	Moderate wind, and fine weather
♀ —— 18	75¾	30 ,2	76$_{\mathrm{T}}$		Ditto	Ditto
♄ —— 19	74¾	30 25	77	76½	East	Ditto
☉ —— 20	75¾	30 2	77		Ditto	Brisk wind and mostly cloudy
☽ —— 21	75$_{\mathrm{T}}$	30,25	77		Ditto	Moderate wind and flying clouds
♂ —— 22	74$_{\mathrm{T}}$	30,2	76$_{\mathrm{T}}$	75$^{\perp}$	Ditto	Ditto, with showers
☿ —— 23	75$_{\mathrm{T}}$	30,1	77$_{\mathrm{T}}$	75$^{\perp}$	N E	Ditto, with flying clouds
♃ —— 24	74	30,1	77	77	East	Ditto
♀ —— 25	76$_{\mathrm{T}}$	30,17	78	76$^{\perp}$	Ditto	Ditto
♄ —— 26	78	30,1	78$_{\mathrm{T}}$	78$^{\perp}$	Ditto	Ditto
☉ —— 27	78$_{\mathrm{T}}$	30,02	80	79	Ditto	Ditto
☽ —— 28	78$_{\mathrm{T}}$	30,05	80	80	Ditto	Ditto
♂ —— 29	79¼	29,97	81	80¼	Ditto	Ditto
☿ —— 30	79	30,02	80¾	80	Ditto	Ditto
♃ —— 31	80	30,0	80$_{\mathrm{T}}$	80$^{\perp}$	Ditto	Ditto
♀ April 1	80¼	29,97	81	81	Ditto	Ditto
♄ —— 2	79$_{\mathrm{T}}$	29,95	81¾	81	Ditto	Ditto
☉ —— 3	80¼	30,02	82	81¾	Ditto	Ditto
☽ —— 4	81¾	30,0	82¼	82$^{\perp}$	Ditto	Ditto
♂ —— 5	81¾	30,0	83	82¾	Ditto	Ditto
☿ —— 6	81¾	29 97	83$_{\mathrm{T}}$	82$^{\perp}$	Ditto	Ditto
♃ —— 7	77$^{\perp}$	30,0	81$_{\mathrm{T}}$	81$^{\perp}$	East	Ditto, with showers
♀ —— 8	82	29,97	82$_{\mathrm{T}}$	82$^{\perp}$	Ditto	Ditto, with heavy showers
♄ —— 9	82	29,85	84$_{\mathrm{T}}$	84$^{\perp}$	Ditto	Brisk wind, in squalls, with showers
☉ —— 10	81	29,87	84$_{\mathrm{T}}$	84$_{\mathrm{T}}$	Ditto	Strong gusts of wind, with showers
☽ —— 11	81¾	29,85	85$_{\mathrm{T}}$	85$^{\perp}$	E. S E	Squally, with showers
♂ —— 12	84$_{\mathrm{T}}$	30,02	84$_{\mathrm{T}}$	81$^{\perp}$	S E	Ditto
☿ —— 13	79	29,97	82¼	82$_{\mathrm{T}}$	Ditto.	Brisk wind, with showers.
♃ —— 14	81$_{\mathrm{T}}$	29,90	82$^{\perp}$	83	East	Moderate wind and mostly cloudy
♀ —— 15	82$_{\mathrm{T}}$	30,02	83	82$^{\perp}$	Ditto	Brisk wind, and flying clouds
♄ —— 16	82	30,02	83$_{\mathrm{T}}$	83¼	Ditto	Brisk winds, and flying clouds
☉ —— 17	81$_{\mathrm{T}}$	30,0	83¼		Ditto	Ditto
☽ —— 18	81$_{\mathrm{T}}$	30,07	82¼		Ditto	Moderate wind, and flying clouds
♂ —— 19	81$_{\mathrm{T}}$	30,1	82¼	82	Ditto	Ditto
☿ —— 20	79	30,07	81	79$^{\perp}$	Ditto	Ditto
♃ —— 21	81$_{\mathrm{T}}$	30,1	82$_{\mathrm{T}}$		Variable	Ditto, and cloudy, with rain
♀ —— 22		30,03	81$^{\perp}$		Ditto	Ditto, and cloudy
♄ —— 23	88$_{\mathrm{T}}$	30,11	88⅓	82$^{\perp}$	Ditto	Ditto, and flying clouds
☉ —— 24	80	30 09	90		Ditto	Moderate wind, and flying clouds, with showers
☽ —— 25		30 02	78		Ditto	
♂ —— 26	80¼	30,03	84$^{\perp}$	84$^{\perp}$	Ditto	
☿ —— 27	80	30,18	92	84	Ditto	
♃ —— 28		30 10	83		Ditto	

1774.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♀ April 29.	83¼	30,05	88¼	87	East.	Moderate wind, and fine weather.
♄ —— 30.	81	30,02	88¼	86¼	Ditto.	Ditto.
☉ May 1.	83¼	30,04	90½	90½	E. N. E.	Ditto.
☽ —— 2.		30,11	89½		S. W.	Squally, with heavy showers of rain.
♂ —— 3.	82½	30,03	90	85½	Ditto.	Ditto.
☿ —— 4.	81	30,03	93	86¼	Ditto.	Moderate wind, and fine weather.
♃ —— 5.		30,02	94¾	72¼	East.	Ditto.
♀ —— 6.	83	30,02	97	72½	Ditto.	Ditto.
♄ —— 7.	80	30,02	91½	79¼	Ditto.	Ditto.
☉ —— 8.	81	30,09	93½	93	Ditto.	Ditto.
☽ —— 9.	82½	30,03	91	84	Ditto.	Ditto.
♂ —— 10.		30,03	84	77½	Ditto.	Ditto.
☿ —— 11.					Variable.	Rainy, unsettled weather.
♃ —— 12.		30,09	80½		N. E.	Ditto, with thunder and lightning.
♀ —— 13.		30,12	81		East.	Moderate wind, and fine weather.
♄ —— 14.		30,08	82½		E. by N.	Ditto.
☉ —— 15.		30,15	84½	83	S. E.	Ditto.
☽ —— 16.	79½	30,2	84¼	81	E. S. E.	Ditto.
♂ —— 17.	79	30,15	83	83	E. by S.	Ditto.
☿ —— 18.	79	30,12	82¼	81	East.	Little wind, and frequent showers.
♃ —— 19.	77	30,07	80½	80¼	Ditto.	Moderate wind, and fine weather.
♀ —— 20.	79	30,09	82½	80½	Ditto.	Ditto.
♄ —— 21.	79	30,11	84	81¼	Ditto.	Ditto.
☉ —— 22.	79½	30,12	83¾		Ditto.	Ditto.
☽ —— 23.	78½	30,05	83½		Ditto.	Moderate wind, with showers.
♂ —— 24.	79¾	29,92	83		Variable.	Ditto, and flying clouds.
☿ —— 25.	79¾	29,92	78		S. E.	Ditto, and cloudy, with rain.
♃ —— 26.	77½	29,45	81½		E. S. E.	Ditto.
♀ —— 27.	75½	30,08	79½	80½	East.	Brisk wind, and mostly cloudy.
♄ —— 28.	76½	30,11	80¾	80½	Ditto.	Moderate wind, and fine weather.
☉ —— 29.	75½	30,03	82	81½	Ditto.	Ditto.
☽ —— 30.	75	30,02	78½	82¼	Ditto.	Ditto.
♂ —— 31.	79½	29,98	80	81¼	Ditto.	Ditto.
☿ June 1.	77½	29,98	81	81¼	Ditto.	Ditto.
♃ —— 2.	77	29,96	79½	81	Ditto.	Ditto.
♀ —— 3.	77¼	29,95	79	81¼	Ditto.	Ditto.
♄ —— 4	81	30,0	81½	81¼	Ditto.	Ditto.
☉ —— 5	79½	29,97	82½	83	Ditto.	Ditto, and cloudy.
☽ —— 6	81½	30,0	82½		N. E.	Ditto.
♂ —— 7.	79¾	29,85	81½	80	Variable.	Ditto, with rain, thunder, and lightning.
☿ —— 8.	78	29,97	80¼	82	N. E.	Little wind, and cloudy.
♃ —— 9.	79	29,87	81	81	Variable.	Moderate wind, and mostly cloudy.
♀ —— 10.	76	29,95	77¼	77½	S. E.	Squally, with rain, and much lightning.
♄ —— 11.	77	30,05	77½	77	Ditto.	Moderate wind, and cloudy, with showers.
☉ —— 12	74	30,1	75		Ditto.	Brisk wind, with drizzling rain.
☽ —— 13.	75		80	77¼	Variable.	Moderate wind, and cloudy.
♂ —— 14.	75¼	30,0	75½	76¼	Ditto.	Little wind, and flying clouds.
☿ —— 15.	75¼	30,1	75¼	75½	South.	Ditto.

1774			Morn	Noon		Even	Winds	Weather &c
			Therm	Barom	Therm	Therm		
♃	June	16	74½	30,1	75½	74½	South	Moderate wind, and fine weather
♀	——	17	73½	30,12	75	73	S E	Ditto.
♄	——	18	73½	30,12	76½		Ditto	Ditto
☉	——	19	74	30,05	77	75	East	Ditto.
☽	——	20	75½	30,1	77½	76½	Ditto	Ditto.
♂	——	21	76	30,05	78	79	Ditto.	Ditto.
☿	——	22	76	30,07	77½	76	Ditto	Ditto
♃	——	23	76½	30,07	77½	76½	Ditto	Ditto
♀	——	24	76½	30,07	79	78½	N E	Ditto
♄	——	25	78	30,12	77½		Variable.	Little wind, and hazy
☉	——	26	76	30,1	75	78	Ditto	Ditto, and fine weather
☽	——	27	74½	30,12	74½	74½	Ditto	Ditto.
♂	——	28				74½	Ditto	Ditto
☿	——	29	74½	30,05	74½	76½	West	Ditto
♃	——	30	74½	30,12	75½	72½	S E	Moderate wind, and cloudy weather
♀	July	1	73	30,17	75	73½	Ditto	Ditto
♄	——	2	72	30,15	72	72½	Ditto	Ditto, and fine weather
☉	——	3	71	30 15	74	72½	Ditto	Ditto
☽	——	4	74½	30 12	75½	76½	Ditto	Ditto, and cloudy
♂	——	5	75	30 07	7[illegible]½		Ditto	Ditto
☿	——	6	74½	30,15	76½	76½	East	Ditto.
♃	——	7	75	30,1	77	77½	Ditto	Ditto
♀	——	8	75½	30,1	78		North	Ditto
♄	——	9	77	29,9	78		South	Little wind, with heavy showers of rain
☉	——	10	73½	29 92	74½	74	S E	Brisk wind, in squalls, with rain
☽	——	11	73	29,9	74	75	Ditto	Brisk wind, and cloudy
♂	——	12	74½	29,95	76	75½	Ditto	Ditto
☿	——	13	75½	29 97	76	76½	Ditto	Moderate wind, and fine weather
♃	——	14	76	30,02	78	77½	East	Ditto
♀	——	15	76½	30,02	75½	78½	S E	Ditto
♄	——	16	78½	30,02	79½		Ditto	Brisk wind, in squalls, with rain
☉	——	17	78	30,05	76½		Ditto	Heavy squalls of wind and rain
☽	——	18	75½	30,05	76½	76½	Ditto	Strong wind, and showers
♂	——	19	75	30,02	76½	76½	Ditto	Ditto
☿	——	20		30,12	75	74½	Ditto	Moderate wind, and cloudy
♃	——	21	74½	30,02	77½	74	S E	Ditto, and flying clouds
♀	——	22	74½	30,02	76½	76	Variable	Little wind and flying clouds
♄	——	23	76	29,97	80	7[illegible]½	N E.	Moderate wind, and cloudy weather
☉	——	24	76	30,0	79½		Variable	Ditto
☽	——	25	77½	30,0	80½	79	Ditto	Little wind, and fine weather
♂	——	26	78½	30,0	78½	81	S W	Ditto
☿	——	27	74	30 0	74½	74½	Ditto	Ditto.
♃	——	28	70½	30 02	71½	75	Ditto	Ditto
♀	——	29	70½	30,02	74	72½	S. E	Ditto,
♄	——	30	70½	30,05	72½	76½	Ditto	Ditto
☉	——	31	73½	30,1	81	74½	Ditto	Ditto.
☽	Aug	1	73	30,12	73½	76½	Variable	Ditto
♂	——	2	73½	30,1	78½	78	South.	Ditto

1774.			Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☿	Aug.	3.	73	30,1	74	74¼	East.	Little wind, and fine weather.
♃	——	4.	70½	30,02	78	77½	West.	Ditto.
♀	——	5.	73½	29,89	78		S. E.	Moderate wind, and mostly cloudy.
♄	——	6.	70½	29,93	74½		Ditto.	Moderate wind, and flying clouds.
☉	——	7.	71½		78½	78¼	Ditto.	Ditto.
☽	——	8.	68½	30,14	73½		Ditto.	Moderate wind, and mostly cloudy.
♂	——	9.	71½	30,13	73½		East.	Moderate wind, and cloudy weather.
☿	——	10.	70½	30,17	74		N. E.	Ditto.
♃	——	11.	71	30,08	77	75¾	N. N. W.	Moderate wind, with showers.
♀	——	12.	72½	30,08	83¼	80½	E. S. E.	Moderate wind, and cloudy weather.
♄	——	13.	73½	30,19	75		N. E.	Little wind, and close, cloudy weather.
☉	——	14.	72	30,11	76		N. N. W.	Moderate wind, and mostly cloudy.
☽	——	15.	75½	30,08	80	81½	Ditto.	Little wind, and cloudy.
♂	——	16.	76	29,97	79½		E. N. E.	Little wind, and flying clouds.
☿	——	17.	78½	30,12	79½	79½	East.	Ditto, and cloudy weather.
♃	——	18.	73	30,10	78		E. by N.	Moderate wind, and cloudy weather.
♀	——	19.	77	30,02	79½	78	Westerly.	Little wind, with showers.
♄	——	20.	72½	30,1	73		S. E.	Brisk wind, and cloudy.
☉	——	21.	70½	30,15	73½	72	Ditto.	Moderate wind, and mostly cloudy.
☽	——	22.	70½	30,17	75½	74.	East.	Ditto.
♂	——	23	72¼	30,15	73½		S. E.	Brisk wind, and cloudy.
☿	——	24	78½	30,1	81	80¼	Ditto.	Moderate wind, and cloudy.
♃	——	25.	79½	30,1	81½	81	Ditto.	Ditto.
♀	——	26.	76½	29,95	80½		Ditto.	Little wind, and fine weather.
♄	——	27.	74½	30,02		79½	East.	Ditto.
☉	——	28.	78½	30,0	78½	82¼	Variable.	Ditto.
☽	——	29.	78	30,1	80		S. E.	Ditto.
♂	——	30.	76½	30,1	79	78	Ditto.	Moderate wind, and fine weather.
☿	——	31.	76	30,1	77	79.	Ditto.	Ditto.
♃	Sept.	1.	74	30,12	75		East.	Ditto.
♀	——	2.	74½	30,15	76½	76	Ditto.	Moderate wind, and cloudy.
♄	——	3.	72	30,1	73½	74	Ditto.	Moderate wind, and cloudy; rain at times.
☉	——	4.	73	30,15	74	74½	S. E.	Little wind, and cloudy.
☽	——	5.		30,12	74	75½	E. by N.	Ditto.
♂	——	6.	70½				E. S. E.	Little wind, with flying clouds.
☿	——	7.	72½	30,05	75		S. E.	Brisk wind, with flying clouds.
♃	——	8.	72¼	30,06	72½		E. N. E.	Ditto.
♀	——	9.	74½	30,11	74½	71½	Ditto.	Strong wind, and cloudy, with rain at times.
♄	——	10.	71	30,08	75	75	East.	(Strong wind, and cloudy, with rain at times.)
☉	——	11	70½	30,16	76¼	73	Ditto.	(Strong wind, and cloudy, with rain at times.)
☽	——	12.	72¼	30,14	76½	73½	Ditto.	Brisk wind, and cloudy weather.
♂	——	13.	72	30,1	77		Ditto.	Moderate wind, and fine weather.
☿	——	14.	74¾	30,07	76½	79	Ditto.	Moderate wind, and cloudy weather.
♃	——	15.	74	29,92	80	83	N. E.	Little wind, and fine weather.
♀	——	16.	76	30,02	77¼	80½	Variable.	Little wind, and hazy weather.
♄	——	17.	75	30,06	77¼	76¼	East.	Little wind, and fine weather.
☉	——	18.	75½	30,15	79		Ditto.	Little wind, and cloudy; rain at times.
☽	——	19.	72	30,15	73½		Ditto.	Ditto.

1774.	Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds.	Weather &c
♂ Sept 20	73	30,12	73½	73	East	Moderate wind, and fine weather
☿ —— 21	71	30,15	73¼	73¼	Variable	Ditto
♃ —— 22	71¼	30,12	73½	72½	Ditto	Ditto
♀ —— 23	71	30,15	73	73½	Ditto.	Little wind, and fine weather
♄ —— 24	72	30,12	73	72	Ditto	Ditto
☉ —— 25	71¼	30,15	73½	74¾	Ditto	Ditto
☽ —— 26	72	30,17	73½	73¾	S E	Ditto.
♂ —— 27	68¼	30,17	68¾	69	Ditto	Brisk wind, and fine weather
☿ —— 28	68¼	30,2	71	69½	East	Ditto, and cloudy, with showers
♃ —— 29	70	30,17	74	74½	Ditto.	Moderate wind and fine weather
♀ —— 30	71	30 05	73	75½	Variable	Little wind, and fine weather
♄ Oct 1	68	29,85	70½	69½	South.	Brisk wind, and fine weather
☉ —— 2	66	29,92	66½	69½	S W	Little wind, and fine weather
☽ —— 3	68	29,87	68½	68½	Ditto	Brisk wind in squalls, with showers
♂ —— 4	66	29,97	69½	69	West	Squally weather, with fog and rain
☿ —— 5	64¼	29 95	64½	65½	S W	Brisk wind, and fine weather
♃ —— 6	62	30,22	65	68½	Calm	Little wind, and cloudy weather
♀ —— 7	63	30,3	71		S E	Ditto
♄ —— 8	64¼	30,3	65¼	64½	Ditto	Moderate wind, and fine weather
☉ —— 9	62¼	30,32	64¼	62½	South	Ditto
☽ —— 10	61¼	30,25	63¾		S E	Ditto
♂ —— 11	65	30 2	66½	64¾	East	Ditto
☿ —— 12	63¼	30,25	66¼	65	N E	Ditto
♃ —— 13	62	30,22	65½	63	Ditto	Ditto
♀ —— 14	61¼	30,17	65¼	61½	Ditto	Ditto
♄ —— 15	60	30,02	65½		North	Brisk wind, and cloudy weather
☉ —— 16	59¼	29,82	63½		Variable.	Ditto, with lightning and rain
☽ —— 17	58	29,55	59	59½	West	Strong wind, and cloudy, with showers
♂ —— 18		29,64	55½		Ditto	Brisk wind, and cloudy
☿ —— 19		29,87	57		S W	Strong gusts of wind with rain, and cold weath
♃ —— 20		29 97	55		Ditto	Strong wind weather cold and rainy
♀ —— 21		29,19	58¾		Westerly	Moderate wind, and fine weather
♄ —— 22		29 74	61	6[illegible]½	S S E	Ditto
☉ —— 23	63¼	30,1	65	65½	Ditto	Ditto
☽ —— 24	65	30,04	70	64	S W	Ditto, and cloudy weather
♂ —— 25	65½	29,68	67½		Variable	Moderate wind, and mostly cloudy
☿ —— 26	69¼	29 67	71	66½	Westerly	Ditto, and cloudy
♃ —— 27	56	29,72	58¾		Ditto	Ditto
♀ —— 28	62½	29,67	68	64	Southerly	Ditto, and mostly cloudy, with rain
♄ —— 29	55½	29,42	58¼		S E.	Ditto, and cloudy
☉ —— 30	55	29 43	56¼		Ditto	Strong wind, and heavy rain
☽ —— 31	63	29 6	68	67	Variable	Moderate wind, and fine weather
♂ Nov 1	63⅔	29 7	66		S E	Strong wind, and fine weather
☿ —— 2	61	29 38	65½	43	S S W	Brisk wind and fine weather
♃ —— 3	62	29 51	63	48	S W	Moderate wind, and fine weather
♀ —— 4	69	29,55	72½	53	Ditto	Ditto
♄ —— 5	62¼	29 75	73½	66	Variable	Brisk wind, and hazy weather
☉ —— 6	59½	29,78	59¼		Ditto	Brisk wind, and drizzling rain

1774.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☽ Nov. 7.	56	29,5	58⅔	58	Variable.	Strong wind, and heavy rain.
♂ —— 8.	55½	29,4	64		S. W.	Brisk wind, and cloudy weather.
☿ —— 9	60	29,35	62	62	Westerly.	Moderate wind; mostly cloudy, with rain.
♃ —— 10.	58½	29,6	64¼		Variable.	Ditto, and cloudy weather.
♀ —— 11.	58	29,65	60	62½	N. W.	Little wind, and cloudy.
♄ —— 12.	58	29,6	61⅔	64	Westerly.	Moderate wind, and ditto.
☉ —— 13.	54¼	29,75	56		N. N. E.	Little wind, and foggy weather.
☽ —— 14.	54	29,42	53⅔		Westerly.	Brisk wind, and foggy, with rain,
♂ —— 15.	49½	29,42	51½	52	Ditto.	Moderate wind, with rain.
☿ —— 16.	47¼	29,45	50	52	East,	Brisk wind, and fine weather.
♃ —— 17.	48¼	29,35	50¼	51	N. W.	Ditto, and cloudy, with rain.
♀ —— 18.	47⅔	29,45	50½		North.	Ditto, and foggy.
♄ —— 19.	48	29,5	49		Ditto.	Ditto.
☉ —— 20.	45⅔	29,7	46		N. E.	Moderate wind, and foggy.
☽ —— 21.	44	28,85	43½		N. W.	Strong wind, thick fog, and rain.
♂ —— 22.	43½	29,4	44½		Southerly.	Moderate wind, and foggy.
☿ —— 23.	43	29,45	44½	48½	West.	Little wind, and foggy weather.
♃ —— 24.	42½	29,85	46		N. W.	Brisk wind, and foggy weather: Penguins.
♀ —— 25.	43	29,87	45¼	43½	Ditto.	Ditto, and fine weather.
♄ —— 26.	43	29,85	43½		Ditto.	Ditto, and foggy: Many birds.
☉ —— 27.	43¼	29,77	44½	43½	North.	Ditto, and cloudy.
☽ —— 28.	43½	29,62	43½		N. W.	Strong wind, with rain and thick fog.
♂ —— 29.	45¼	29,75	45⅔		Ditto.	Moderate wind, and foggy: Sea-weed.
☿ —— 30.	45	29,97	47¼		N. E.	Little wind, and thick fog.
♃ Dec. 1.	45	29,57	45¼		S. E.	Moderate wind, and foggy, with rain.
♀ —— 2.	44	29,47	45¼		Ditto.	Ditto.
♄ —— 3.	43	29,27	45		Ditto.	Ditto.
☉ —— 4.	40	29,15	41¾	41¼	S. W.	Brisk wind, and cloudy.
☽ —— 5.	41½	29,37	43½		Ditto.	Ditto, snow and rain.
♂ —— 6.	39½	29,35	43	43	West.	Ditto, snow and hail.
☿ —— 7.	43	29,2	46½	48	Ditto.	Moderate wind, and cloudy, with showers.
♃ —— 8.	43¼	29,05	47		N. W.	Ditto.
♀ —— 9.	43½	28,92	47¼		Easterly.	Little wind, and foggy, with rain. Sea-weed.
♄ —— 10.	44	28,82	46½	44½	S. W.	Brisk wind, and cloudy: rain at times.
☉ —— 11.	42½	28,75	44	44½	West.	Ditto, and cloudy.
☽ —— 12.	43½	28,77	44¼	46½	Variable.	Ditto, and fine weather.
♂ —— 13.	52	28,75	47	45½	West.	Moderate wind, and cloudy.
☿ —— 14.	44½	28,9	46½	45½	Ditto.	Brisk wind, and fine weather.
♃ —— 15.	44¼	29,05	46¾	45½	Ditto.	Ditto, and squally, with rain.
♀ —— 16.	44	29,17	46	46½	Ditto.	Moderate wind, & fine weather. Penguins, sea-weed, & seals.
♄ —— 17.	45	29,17	47	47	Ditto.	Squally, with showers. Made Cape Diseada.
☉ —— 18.		29,4	47	50	N. W.	Brisk wind, and fine weather.
☽ —— 19.	45½	29,55	50¼	48	N. E.	Little wind, and fair weather.
♂ —— 20.	47¼	29,62	54	53½	East.	Ditto.
☿ —— 21.	52	29,52	57		N. N. W.	Wind moderate, and fine weather, but cold.
♃ —— 22.		29,68	58¼		East.	Little wind, and cloudy, with showers.
♀ —— 23.	47½	29,89	51½	49½	Variable.	Moderate wind, with showers, and cloudy.
♄ —— 24.	46	29,82	50	49½	Ditto.	Ditto, and mostly cloudy.

1774			Morn	Noon*		Even	Winds	Weather &c
			Therm	Barom	Therm	Therm		
☉	Dec	25	47	29,31	53		Eaſterly	Moderate wind, with rain and ſleet
☽	——	26	47	29,57	49	49	Ditto	Ditto, and fine weather
♂	——	27		29 55	51		Weſterly	Ditto, and cloudy weather
☿	——	28		29,7	50½		S W	Ditto, and foggy, with rain
♃	——	29	48	29 7	50	52¾	Weſt	Briſk wind, and ſqually, with rain
♀	——	30	54	29,65	56	54	N W	Ditto, and cloudy
♄	——	31	50	29,35	52¼	51	W N W	Ditto, and cloudy, with ſhowers
1775								
☉	Jan	1	52	29,62	54		S W	Ditto
☽	——	2	47	29,65	48	51¼	Weſt	Briſk wind, and ſqually weather
♂	——	3	49	29,62	52		Ditto	Moderate wind, with ſhowers
☿	——	4	47	29 62	51		Ditto	Briſk wind, and cloudy, rain at times
♃	——	5	43	29,6	47	45	Ditto	Ditto
♀	——	6	43	29,52	41	43	Ditto	Moderate wind, and cloudy
♄	——	7	40¼	29,72	40	43	Ditto.	Briſk wind, and fine weather
☉	——	8	44	29,5	49	50	North	Moderate wind, and ditto
☽	——	9	43¼	29,35	43		N W	Briſk wind, and foggy. Seal and ſea weed
♂	——	10	43	29,15	45		Weſt	Moderate wind, and foggy
☿	——	11	42¼	29 2	47	45	S W	Ditto, and cloudy. Porpoiſes and birds
♃	——	12	40	29,2	42¾		Variable	Ditto. Penguins, ſeals, and ſea weed
♀	——	13	40	29 17	39	37	S E	Moderate wind, and foggy. Several penguins
♄	——	14	35	29,37	37½	37	Variable	Ditto, and cold cloudy weather
☉	——	15	34¾	28,7	35¼		S E	Briſk wind, with ſnow
☽	——	16	34	29 25	39¼		S W	Moderate wind, with ſnow and ſleet
♂	——	17	35	29,45	39	39½	Variable.	Ditto, and fine weather
☿	——	18	37½	29 6	43	41	S W	Ditto
♃	——	19	37	30,02	45	42	Variable	Moderate wind, and cloudy
♀	——	20	39	29 72	44	39	Ditto	Ditto.
♄	——	21	38	29,5	39	40	South.	Little wind, and foggy. I cannot help remarking that all the time we were off, and in the neighbourhood of South Georgia, whenever the Southern winds blew, the cold was much less ſevere than when they blew from the Northward
☉	——	22	33	29,92	39		N E	Little wind, and foggy weather
☽	——	23	37¼	29 22	39		Ditto	Ditto, and thick fog
♀	——	24	37	29,0	41		North	Ditto, and foggy. Whales
☿	——	25	39	29,12	40¼	39½	Ditto	Briſk wind, and thick fog. Whales
♃	——	26	42¾	29,2	41¾		N W	Ditto, and foggy weather. Whales & penguins
♀	——	27	39	29,22	39	36	North.	Moderate wind and foggy. Many whales, penguins, &c
♄	——	28	34¼	29,12	37	33¾	Ditto	Ditto, fog, rain, and ſleet. Whales, penguins, petterals, and ice iſlands without number
☉	——	29	34¾	29,2	39		North	Little wind, and cloudy. Still many whales, penguins, ice iſlands, and birds of various ſorts
☽	——	30	34¾	29 25	35		N W	Briſk wind, and thick fog. Much ice
♂	——	31	34	29,15	37	39	Weſt	Moderate wind, and thick fog. Saw land
☿	Feb	1	33¼	29 17	39	35	Variable	Little wind, and fine weather
♃	——	2	34¼	29 2	36	37	Ditto	Ditto, and foggy. Many penguins, &c
♀	——	3	34	29,0	36		S E	Moderate wind, and foggy
♄	——	4	34	28,87	38		Ditto.	Little wind, and ditto.

1775.		Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☉	Feb. 5.	36¼	29,[illegible]5	38½	37	Weſterly.	Moderate wind, and foggy. Six ice iſlands.
☽	—— 6.	36	29,17	38		N. and W.	Briſk wind, and cloudy. Snow at times. Ice.
♂	—— 7.	34¼	29,0	37½	35½	S. W.	Strong wind, and cloudy. Several ice iſlands.
☿	—— 8.	35½	29,17	37½		Ditto.	Moderate wind, and cloudy. Ice iſlands.
♃	—— 9.	35½	29,25	40	40	Variable.	Little wind, and cloudy, with ſnow. Ice.
♀	—— 10.	33	29,32	34½	34	S. W.	Briſk wind, and moſtly cloudy. Ice.
♄	—— 11.	33½	29,52	36½		Variable.	Little wind, and cloudy: ſnow at times. Ice.
☉	—— 12.	32¼	29,17	37½	35½	S. E.	Little wind, and moſtly cloudy. Much ice.
☽	—— 13.		28,97	33		Ditto.	Moderate wind, and cloudy: ſnow at times.
♂	—— 14.	29	28,92	32½	37	S. W.	Briſk wind, and ſqually weather. Some ice.
		Having completed 360° of Longitude, I here dropped the circle, and repeated a day.					
♂	—— 14.	34½	29,27	35½	35½	S. W.	Briſk wind, and cloudy: ſnow at times. Ice.
☿	—— 15.	35½	28,97	36½		Eaſt.	Little wind, and cloudy: ſometimes ſleet.
♃	—— 16.	33	28,87	33	33½	Southerly.	Briſk wind, with ſleet. Several ice iſlands.
♀	—— 17.	33	29,57	36	36½	N. and W.	Moderate wind, and fine weather. Some ditto.
♄	—— 18.	33	29,47	34½		North.	Briſk wind, and cloudy, with ſleet. Several ditto.
☉	—— 19.		28,92	35½		W. N. W.	Ditto, and foggy, with ſleet.
☽	—— 20.	34½	28,95	40		Variable.	Ditto, and cloudy. Little ice.
♂	—— 21.	35	29,2	37	37	Weſterly.	Moderate wind, and cloudy: ſnow at times.
☿	—— 22.	34	29,42	36		Northerly.	Briſk wind, and cloudy: ſnow & ſleet. Whales.
♃	—— 23.	35½	28,97	35½		N. W.	Ditto: ſnow at times.
♀	—— 24.	37	28,95	38½		Ditto.	Strong wind, and ſqually weather. One ice iſl.
♄	—— 25.	37¾	29,72	41		Ditto.	Moderate wind, and moſtly cloudy, with fog.
☉	—— 26.	39¼	29,97	45¼		Ditto.	Briſk wind, and foggy. Saw ſea-weed.
☽	—— 27.	45	29,87	47		North.	Ditto, with rain. Penguins, &c.
♂	—— 28.	48½	29,90	49	43½	Variable.	Moderate wind, and foggy: rain at times.
☿	March 1.	43½	29,7	47		N. W.	Briſk wind, and foggy: ditto.
♃	—— 2.	45½	29,62	47	43	Weſt.	Ditto, and foggy weather.
♀	—— 3.	42	30,02	44	44	N. W.	Ditto, and cloudy.
♄	—— 4.	51¼	29,92	55	57	North.	Ditto, and fine weather.
☉	—— 5.	53	29,5	50½		N. W.	Ditto, and foggy weather.
☽	—— 6.	51½	29,82	52½	54	Weſt.	Ditto, and cloudy.
♂	—— 7.	57	29,95	61½	60¼	N. W.	Ditto.
☿	—— 8.	61½	29,87	64		North.	Moderate wind, and cloudy.
♃	—— 9.	62	29,57	63¼	56½	Weſt.	Moderate wind, and cloudy, with rain.
♀	—— 10.	53¼	29,82	52½	52½	S. W.	Moderate wind, and cloudy.
♄	—— 11.	51	30,02	51¼		Weſt.	Little wind, and cloudy weather.
☉	—— 12.	59	30,12	62	63½	Variable.	Moderate wind, and ditto.
☽	—— 13.	67	29,85	71	72½	N. W.	Briſk wind, and ſqually, with ſhowers.
♂	—— 14.	70¼	29,65	72½	70¾	Ditto.	Strong wind, and cloudy.
☿	—— 15.	69	29,87	72½	69	Weſt.	Briſk wind, and cloudy weather.
♃	—— 16.	66	30,2	69	68¼	Variable.	Little wind, and fine weather.
♀	—— 17.	69	30,15	70	69½	Weſterly.	Moderate wind, and ditto.
♄	—— 18.	58	30,05	70½		S. W.	Ditto, and cloudy.
☉	—— 19.	65½	30,2	65¼	65¼	S. E.	Briſk wind, and ditto.
☽	—— 20.	65	30,07	66¼		Ditto.	Variable weather.
♂	—— 21.		30,08	75	76½	Ditto.	Moderate wind, and fine weather.

1775	Morn Therm	*Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
☿ March 22		30,03	77			All the former part of the time that we lay at the Cape of Good Hope, the weather was fine and clear, and the wind South easterly; but pretty early in April it began frequently to veer round to the North west, and towards the latter end was almost constantly there Whenever this happened the air was thick and foggy, with rain and cold raw weather; but if the wind returned to the East, or South east, though for an hour or two only, the weather cleared up, and the fogs which, with the North west winds covered the hills down to the very skirts of the town, were dispersed, or, at least, hung only about the very tops of them
♃ — 23						
♀ — 24						
♄ — 25			73			
☉ — 26	66	29,92	69			
☽ — 27	59	30,07	64	63½		
♂ — 28	57¼	30,28	65½	65		
☿ — 29	65¼	30,2	71	69¼		
♃ — 30	68½	30,15	73½	73		
♀ — 31	64½	30,04	71	69½		
♄ April 1	66	30,05	71¼	70		
☉ — 2	69	30,1	75	75		
☽ — 3	66½	30,08	73¾			
♂ — 4	67½	30,05	80			
☿ — 5	73	30,0	78¾	80½		
♃ — 6	69½	29,94	81	80¼		
♀ — 7	72	29,98	75			
♄ — 8		30,03	72			
☉ — 9	71¼	30,01	75½	71		
☽ — 10	69½	29 9	77	76		
♂ — 11	66	29,86	68	65¾		
☿ — 12	65	30,02	69	63½		
♃ — 13	63½	30,02	68¼	67¼		
♀ — 14	61¾	30,02	69½	64		
♄ — 15	61	30,01	68	67		
☉ — 16	63½	30,0	69¾	64		
☽ — 17	61¾	29,95	65	61¼		
♂ — 18	64½	30,17	64¼	66		
☿ — 19	66	30,18	70	70½		
♃ — 20	67	30,04	73¼	73¼		
♀ — 21	63½	29,94	68¾			
♄ — 22	62	29,87	63¼			
☉ — 23	59½	29,84	64¾	65		
☽ — 24		30,0	66			
♂ — 25		30,15	66			
☿ — 26					N W	Cloudy, with showers, and brisk wind
♃ — 27		30,34	62		S W by S	Moderate wind, and cloudy
♀ — 28	63¾	30,32	68¼		South	Brisk wind, and fine weather
♄ — 29	64	30,07	66		S S E	Ditto
☉ — 30	62	30,15	63½		Ditto	Moderate wind, and fine weather
☽ May 1	63¾	30,2	66½	65	S E. by E	Ditto
♂ — 2	64½	30,05	66¼	66½	S E	Ditto
☿ — 3	67	30,0	69	67½	Ditto	Ditto
♃ — 4	66½	30 0	67¼	67	Variable.	Little wind, and fine weather
♀ — 5	67	30,07	67		Calm.	Drizzling rain at times; but fine weather
♄ — 6	64¼	30,15	66	67	S S E	Moderate wind, and cloudy rain at times
☉ — 7	65½	30,2	67½	66	Ditto	Moderate wind, and cloudy
☽ — 8	65½	30,22	68	66½	Ditto	Ditto and fine weather

1775.			Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♂	May	9.	67¼	30,22	68½	68½	S. E. by S.	Moderate wind, and fine weather.
☿	——	10.	67¼	30,17	69¼		S. E.	Little wind, and cloudy.
♃	——	11.	68	30,15	70¼	69½	East.	Little wind, and fine weather.
♀	——	12.	69¼	30,22	72½	69	S. E.	Ditto.
♄	——	13.	70¼	30,2	74	72½	S. E.	Ditto.
☉	——	14.	69¼	30,15	72¾	70½	S. E.	Ditto.
☽	——	15.	71	30,2	72	72½	S. S. E.	Moderate wind, and cloudy.
♂	——	16.	73¾	30,12	75½	73	S. E.	Little wind, and cloudy, with showers.
☿	——	17.	71	30,17	73	73½	S. E.	Brisk wind, with drizzling rain.
♃	——	18.		30,2	72¾		S. E.	Little wind, and cloudy weather.
♀	——	19.			76¾		S. E.	Ditto.
♄	——	20.			76		Variable.	Little wind, with showers.
☉	——	21.					S. E.	Ditto.
☽	——	22.	70		70		S. E.	Moderate wind, with rain.
♂	——	23.	72½	30,15	74¾		East.	Brisk wind, and cloudy, with showers.
☿	——	24.	72½	30,17	73		E. S. E.	Moderate wind, and cloudy.
♃	——	25.	72¾	30,1	75	75	S. E. by E.	Brisk wind, and fine weather.
♀	——	26.	75	30,02	77¾	77½	E. by S.	Moderate wind, and fine weather.
♄	——	27.	76¼	30,02	79	79	S. E.	Ditto.
☉	——	28.	77¾	30,07	78½	78½	S. E.	Brisk wind, and cloudy weather.
☽	——	29.	76	30,02	79		S. E.	Mod. wind, flying clouds, and fine weather.
♂	——	30.		30,07	80½		S. E.	Ditto.
☿	——	31.	75¼	30,1	82	80½	E. S. E.	Moderate wind, and heavy showers.
♃	June	1.	77	30,15	79¼	78	S. E.	Moderate wind, and fine weather.
♀	——	2.	77	30,12	78¼	77	S. E.	Ditto.
♄	——	3.	75¾	30,12	78	77	S. E.	Ditto.
☉	——	4.	77	30,07	79¾	79½	S. E. by E.	Ditto.
☽	——	5.	78¼	30,12	80	79	S. E. by E.	Ditto.
♂	——	6.	79¼	30,12	81½	79½	S. E. by E.	Ditto.
☿	——	7.	79¼	30,15	81	81	S. E. by E.	Brisk wind, and fine weather.
♃	——	8.	80	30,1	82¾	80	E. S. E.	Ditto.
♀	——	9.	80¼	30,02	82	81½	E. S. E.	Ditto.
♄	——	10.	80	30,05	82¾	81	E. S. E.	Brisk wind, and cloudy.
☉	——	11.	79¼	30,0	81	80	E. S. E.	Squally, with heavy showers.
☽	——	12.	80¼	30,05	81½	81	E. by S.	Ditto.
♂	——	13.	80	30,07	81½		East.	Moderate wind, and showers.
☿	——	14	77¼	30,05	79½	79½	East.	Little wind, and showers.
♃	——	15.	77¼	30,07	78¾		S. E. by E.	Ditto, and heavy rain.
♀	——	16.	77	30,07	81¼	80¼	Variable.	Ditto, and cloudy.
♄	——	17.	76¼	30,05	79	79¾	S. E.	Ditto, and hot sultry weather.
☉	——	18.	76½	30,05	78	80¼	Variable.	Ditto, and frequent showers.
☽	——	19.	79½	30,07	82	79½	N. E.	Ditto.
♂	——	20.	80	30,02	81	80½	N. E.	Little wind, and fine weather.
☿	——	21.	79¾	30,05	83	81	N. E.	Brisk wind, and fine weather.
♃	——	22.	80	30,05	84½	80½	N. E.	Moderate wind, and fine weather.
♀	——	23.	78	30,02	80	80	N. E.	Ditto.
♄	——	24.	76¼	30,1	78¼	78	E. N. E.	Moderate wind, and cloudy.
☉	——	25.	76	30,1	82¼	79	N. E. by E.	Brisk wind, and cloudy.

1775		Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
☽	June 26	76	30,17	78¼	78½	N E by E	Brisk wind, with showers
♂	—— 27	75½	30,17	78	77	E N E	Moderate wind, and fine weather
☿	—— 28	75	30,22	78	80	East	Brisk wind, and cloudy showers
♃	—— 29	75½	30,27	81		E by N	Moderate wind, and cloudy
♀	—— 30	76½	30,37	80½	80	Ditto	Brisk wind, and fine weather
♄	July 1	74¼	30,45	76½	76	East	Moderate wind, and fine weather
☉	—— 2	73½	30,37	75	75½	E S E.	Moderate wind, and cloudy
☽	—— 3	74	30 4	74	75	Ditto	Ditto
♂	—— 4	73½	30,45	75	74	East	Ditto
☿	—— 5	73	30,5	75	76	Ditto	Little wind, and fine weather
♃	—— 6	74½	30,52	76½	75	Calm	Fine weather
♀	—— 7	74	30 5	77¼	76½	E S E.	Little wind, and fine weather
♄	—— 8	74	30,42	76½	79¼	Variable	Ditto
☉	—— 9	73¼	30,35	76¼	78¼	S W	Ditto
☽	—— 10	74	30,35	76¼	76½	Ditto	Ditto
♂	—— 11	76½	30,32	76	76	S S W	Brisk wind, and cloudy
☿	—— 12	73	30 22	75¼	75	Ditto	Ditto
♃	—— 13	72	30,3	74¾	74	S by W	Moderate wind, and flying clouds.
♀	—— 14	71½				S W	Ditto
♄	—— 15			76½		Ditto	Brisk wind, and cloudy
☉	—— 16			76½		N W	Moderate wind, and cloudy
☽	—— 17			76¼		West	Ditto, and mostly cloudy
♂	—— 18			77½		Westerly	Ditto, and fine weather
☿	—— 19	7 ½	30,15	78	74	S W	Brisk wind, and cloudy, with rain.
♃	—— 20	67½	30,17	75¼	77½	N E	Moderate wind, and mostly cloudy
♀	—— 21	69½	30,17	70½	74	N N E	Ditto, and fine weather
♄	—— 22	66¼	30,1	74½	73½	N W	Ditto
☉	—— 23	66½	30 02	69¼	72	Ditto	Brisk wind, and fine weather
☽	—— 24	65¼	29,95	69¼	70	Ditto	Ditto, with showers
♂	—— 25	63½	30,05	67	68	West	Moderate wind, and fine weather
☿	—— 26	60½	29,77	64	63½	Ditto	Brisk wind, and squally
♃	—— 27	62¼	29,72	64½	69	Ditto	Moderate wind, and fine weather
♀	—— 28	61½	29,75	64½	65	Ditto	Ditto
♄	—— 29	61½	29,85	62½	64	N W	Brisk wind, and hazy weather
☉	—— 30	60½				Westerly	Moderate wind, and fine weather

In the preceding Journal, the civil day is to be understood; namely, from midnight to midnight. In my account of the weather, I have endeavoured to be as particular as possible, consistent with the plan I had prescribed to myself, of confining the remarks of one day to a line, except on some particular occasions, where the circumstances required, and, as I thought, merited a more ample description And as many of the terms which I have made use of, though meant here to convey very diffrent ideas, may be looked upon, and are really used by some persons, as synonymous; I shall here endeavour to give a short explanation of the sense I would wish them to be understood in By the term *Fine Weather*, is to be understood such weather as was in general clear at least where few clouds were abroad if the word *Clear* occurs, it is to be understood that the air was at that time remarkably clear and serene By

Flying Clouds, I expreſs that weather where we had large clouds, obſcuring a conſiderable part of the hemiſphere; but which moved pretty quick, and did not continue long in a place. I have put *Moſtly Cloudy* on thoſe days, the greater part of which the heavens were overſpread with ſettled clouds, but whereof ſome parts of the day were pretty clear. Thoſe days are called *Cloudy* whereon the ſun was but ſeldom, or perhaps never diſtinctly ſeen: the term alſo includes thoſe days on which he was not ſeen at all. By the term *Showers*, I wiſh to expreſs thoſe days whereon we had alternately rain and fine weather; and by Rain at times, thoſe on which the ſky did not clear up between the ſhowers, but remained ſettled cloudy weather. *Cloudy, with Rain*, denotes rain for the greater part of the day, at leaſt; and alſo thoſe days on which we had conſtant rain from the beginning to the end, of which we had ſome few. Thoſe days are denominated *Hazy* on which the face of the heavens was overſpread, as it ſometimes is, with a thin grey cloud; or when the fine blue ſky was in ſome meaſure obſcured by a very thin miſt. The terms *Foggy*, and *Thick Fog*, as well as the degrees of compariſon which are annexed to the wind, will, I flatter myſelf, be ſufficiently underſtood without farther explanation.

It may be neceſſary to add, that it always froze when my thermometer fell to 33°, and ſometimes when it ſtood at 33°½; and, therefore, I conceive the freezing point, on that thermometer, ſhould not be taken lower than the laſt-mentioned number.

AZIMUTHS

OF THE

SUN'S CENTER,

Taken with an AZIMUTH COMPASS;

TOGETHER WITH

The Altitudes of his Lower Limb, taken at the ſame Time, with HADLEY's Sextant,

FOR

Determining the Variation of the MAGNETIC NEEDLE,

On Board His MAJESTY's Sloop RESOLUTION,

In her late Voyage on DISCOVERIES towards the SOUTH.

1772.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s Center. ° ′	No. of Obs.	Variation West. ° ′	Latitude North. ° ′	Longitude West. ° ′	Observers, and Remarks.
♀ June 26.	9 38	N. 85 9⅓ E.	3	20 12⅓			Observed by Captain Cook. Dungeness bearing W. ¾ N. two or three leagues.
	11 21⅔	N. 86 23⅓ E.	3	19 22⅔			
	13 9¾	N. 89 1¾ E.	2	19 47¾			
♂ —— 30.	1 53	N. 31 26⅔ W.	2	23 14			Portland N. ½ E. about 15 miles. Mr. Gilbert.
	Amplit.	N. 27 45 W.	1	24 20			
	11 8⅔	N. 89 26⅔ E.	3	22 10⅓			The Start N. W. by N. ½ W. distance about 6 or 7 leagues. Observed by Captain Cook.
	12 2⅔	N. 90 35 E.	3	22 13			
☿ July 1.	6 42	N. 36 40 W.	3	25 3¾			The Start N. W. ¾ W. and Berry Head N. N. E.
	6 17⅔	N. 36 33⅓ W.	3	24 38			
♂ —— 21.	12 32	N. 49 56 W.	5	23 58	43 30	9 18	Mr. Gilbert.
	21 8⅔	S. 77 49 E.	5	20 45	43 42	9 18	
☿ —— 22.	15 23⅔	S. 81 16⅔ E.	3		42 41⅓	10 6	
	16 7	S. 80 26⅔ E.	3		42 41⅓	10 6	Mr. Gilbert.
♃ —— 23.	Azim.			22 45	41 44	10 42	Mr. Gilbert.
☽ —— 27.	Ditto.			20 23	33 27	15 37	Capt. Cook.
☽ Aug. 3.	Ditto.			15 50	29 6	17 40	Mr. Gilbert.
♂ —— 4.	Ditto.			14 57	28 19	18 40	Observer unknown.
	Amplit.			15 0	28 19	18 40	Ditto.
♃ —— 6.	Azim.			13 11	24 41	19 20	Ditto.
♀ —— 7.	Ditto.			14 39	23 31	19 30	Ditto.
	Amplit.			14 40	23 31	19 30	Ditto.
☉ —— 9.	12 59¾	N. 65 50 W.	6	12 2	19 33	20 45	Ditto.
	5 20⅓	N. 65 11 W.	6	10 44	15 45	23 18	
	Amplit.	N. 63 27 W.	1	10 59	15 44	23 20	
♂ —— 18.	Azim.			9 6	11 11	21 22	Observer unknown.
♃ —— 27.	6 6	N. 6 10 W.	1	13 28¾	4 2	11 36	
	16 47⅓	S. 85 15 E.	7	13 33	3 49¾	10 40	
♀ —— 28.	10 39⅓	N. 67 9 W.	5	18 59	3 38	10 6	
	9 20⅓	N. 95 28⅓ E.	8	14 13	3 18	9 23	
☉ —— 30.	15 22	N. 66 52¾ W.	2	14 57¾	2 34	7 3	
☽ —— 31.	18 22⅓	S. 81 57⅓ E.	7	15 52	2 12⅓	5 41	
♃ Sept. 3.	15 47⅔	S. 82 46 E.	5	14 14¾	0 51	8 40	
♀ —— 4.	6 18$\frac{9}{10}$	N. 68 0 W.	5	15 11¾	0 45	9 15	
	Amplit.	N. 68 30 W.	1	14 43	0 44	9 17	
☽ —— 7.	19 18⅓	S. 81 37 E.	5	14 15	0 10¾	8 35	
♃ —— 10.	14 11¾	S. 82 43⅓ E.	9	12 32	2 53	11 55	
♀ —— 11.	Azim.			11 44	8 18	12 21	Observer not known.
	Amplit.			11 40	8 18	12 21	
♄ —— 12.	Azim.			12 23	4 21	13 0	Ditto.
	Ditto.			12 26	4 56¾	14 7	
☉ —— 13.	Ditto.			9 53	6 24	14 32	Ditto.
☿ —— 16.	Ditto.			7 17	9 50	18 0	Ditto.
	Amplit.			7 53	9 50	18 0	
☉ —— 20.	Azim.			5 7	16 1	20 23	Ditto.
	Amplit.			4 3	16 3	20 24	
☽ —— 21.	12 20	N. 90 21 E.	5	3 49	18 26	21 15	

1772.	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉'s Center	No of Obſ.	Variation Weſt	Latitude South	Longitude Weſt	Obſerver and Remarks
	° ′			° ′	° ′	° ′	
☽ Sept 21	Amplit			3 43	19 2	21 46	Obſerver not known
☿ —— 23	12 59½	N 82 24⅙ W	6	3 16	20 28	22 7	
♀ —— 25	6 38¼	S 89 [illegible] E	4	2 8	24 6	23 32	By a compaſs of Gregory's making which hung on friction wheels
	9 59¼	S 90 35¼ E	7	2 19	24 6	23 32	By a Knight's compaſs
♄ —— 26	10 25⅓	S 95 1 W	5	2 1½	24 25	23 51	Mr Pickerſgill
	9 7⅓	S 94 17 W	5	1 53	24 25	23 51	
	Amplit.	N 92 40 W	1	0 50	24 25	23 51	Mr Pickerſgill
	16 23	S 94 32 E.	5	0 39	24 40½	23 51½	
☉ —— 27	20 0½	S 95 30 W	7	2 5	24 51½	23 51	
	Amplit.	S 89 0 W	1	1 15	24 52	23 51	Mr Gilbert
	Ditto M		1	1 11	25 12	23 31	Ditto
☽ —— 28	8 50½	S 88 50 E	5	2 36½	26 46½	20 36	
☿ —— 30	8 57⅓	S 87 36 E	5	3 14½	27 20	18 36	
♃ Oct 1	5 38½	N 87 0 W	3		27 28	17 59	
	6 56½	S. 84 1½ E	9		27 31	17 34	
☽ —— 5	9 11⅓	N 84 33⅓ W	9	6 13	28 59½	11 30	
♄ —— 10	15 0½	N 79 39½ W	7	8 30½	34 30½	8 8	
☉ —— 11	Azim			8 30	34 47½	6 48	Obſerver not known
☽ —— 12	16 9⅓	N 79 39½ W	7	8 30½	34 52½	6 24	
						Eaſt	
♄ —— 17	15 54⅓	N 76 30⅓ W	7	14 9½	35 0	4 40	
☽ —— 19	22 45½	N 71 49 W	5	15 9½			
	16 56½	N 75 37 W	5	15 23	34 24	7 40	Obſ by the ſhadow of the thread
♂ —— 20	14 42⅔	N 75 55 W	8	16 56½	34 57	7 55½	By looking at the ſun
	14 4½	S 71 34⅙ E	6	14 59	35 19	7 35	
☿ —— 21	11 54	N 79 8 W	7	15 56	35 52	7 36	
☽ —— 26	Azim			20 57	34 25½	14 50	Obſerver not known
	Ditto			21 26½	33 40	15 10	Ditto.
♂ —— 27	26 2⅓	N 67 5 W	5	21 34	33 41	15 38	
☿ —— 28	18 5½	N 73 14⅓ W	7	21 30	33 45½	15 42	
♀ Nov 27	23 17½	N 79 37 W	5	19 7	40 19⅙	16 27	Mr Gilbert
	20 14½	N 81 15 W	5	19 55	40 20	16 27	
♀ Dec 4	14 43⅓	S 56 43¼ E	8	16 4½			
	15 15⅓	S 57 18⅓ E	3	16 31½	46 42⅙	18 10	Mr Pickerſgill
☉ —— 6	19 55⅘	N 83 57⅚ W	7	17 51¼			
	15 51½	N 87 39⅔ W	7	18 38¼	48 48	18 16	
☿ —— 9	10 18⅓	S 49 45⅙ E	6	16 32			
	11 50⅙	S 51 46½ E	8	16 26	50 42	21 8	
☿ —— 16	34 55½	S 76 49 E	5	22 9¼	55 8⅓	23 44	
♃ —— 17	5 2⅒	S. 76 23 W	10	21 9⅓	55 8⅓	24 17	
♄ —— 19	12 8¼	N 89 1½ W	10	22 26¼	54 15	25 56	
☽ —— 21	16 1⅓	N 86 1½ W	8	21 47¼	54 40⅓	29 45	
♂ —— 22	5 32⅔	S 31 58 E	5	23 56	56 17	31 58	Mr Clerke.
♄ —— 26	17 58	N 85 42 W	5	19 37	58 32½	26 24	
	13 9⅘	S 86 4 W	6	19 14	58 32½	26 20	

1773.		Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s Center. ° ′	No. of Obs.	Variation West. ° ′	Latitude South. ° ′	Longitude East. ° ′	Observers, and Remarks.
♄	Jan. 2.	19 42	N. 89 18 W.	5	12 16½	58 51	10 34	Mr. Gilbert.
		16 11	S. 84 45 W.	5	12 3	58 50½	10 33	
		16 14⅘	S. 84 42 W.	5	13 33	58 50½	10 33	Mr. Clerke.
		13 14	S. 79 52 W.	5	11 55½	58 50	10 32	Capt. Cook.
♃	—— 7.	9 36	S. 32 41⅖ E.	3	28 19	61 9	31 42	
		13 35¾	S. 39 8⅖ E.	4	28 53	61 10	31 47	
♀	—— 8.	10 10⅖	S. 32 30 E.	6	29 42	61 30	34 40	
☉	—— 10.	5 51¾	S. 29 19⅚ E.	7	22 50½	62 44	37 25	Mr. Pickersgill.
		13 53⅘	S. 43 59⅗ E.	9	25 30½	62 47⅓	37 27	Mr. Cooper.
☽	—— 11.	8 8⅓	S. 32 26 E.	5	23 47			Gregory's Compass. } Capt. Cook.
		8 48⅗	S. 34 33 E.	5	23 12	64 11⅓	38 22	A Knight's ditto.
		9 55⅘	S. 36 53 E.	7	23 33			Gregory's ditto.
		10 43⅔	S. 37 30 E.	5	24 44			Another Knight's.
♃	—— 14.	19 51	N. 69 30 W.	3	28 0			Gregory's Compass. } Capt. Cook.
		19 11	N. 70 0 W.	5	28 10	63 53	39 20	A Knight's ditto.
		18 16	N. 72 22 W.	4	28 22			Another Knight's
♄	—— 16.	20 5 9/10	N. 68 49 W.	5	27 9	64 55	39 10	Capt. Cook.
		18 10 9/10	N. 72 49⅙ W.	6	27 12	64 55⅙		
♃	—— 21.	20 15⅗	N. 62 31⅖ W.	7	31 13			Mr. Gilbert.
		19 23⅙	N. 64 4 W.	5	31 23	62 28⅓	42 6	
		18 39	N. 64 27 W.	5	32 23			Mr. Clerke.
♀	—— 22.	24 8	S. 60 19¾ E.	10	33 1½	60 27	45 12	Capt. Cook.
☉	—— 24.	8 48⅓	N. 76 13⅓ W.	3	35 30	57 50½	49 52	Mr. Gilbert.
		4 39⅗	N. 84 39⅓ W.	5	34 14½	57 48		Mr. Pickersgill.
☿	—— 27.	17 2⅘	N. 65 56 W.	10	31 24½	56 6⅙		Capt. Cook. Greg. Comp.
		14 57 1/11	N. 69 0 1/11 W.	11	31 22½	56 6½	51 35	Mr. Clerke. Ditto.
		10 4¾	N. 74 7½ W.	4	33 31½	56 6½		Mr. Gilbert. A Knight's dit.
♃	—— 28.	8 0	N. 76 0 W.	1	33 4	53 49	52 31	
☉	—— 31.	Amplit.	N. 86 37½ W.	1	30 49	50 13	57 30	
☉	Feb. 2	18 44⅓	N. 65 55⅗ W.	7	27 52¼			Capt. Cook.
		15 35⅓	N. 69 33⅘ W.	7	27 48	49 7	60 24	Ditto.
		14 35⅓	N. 71 29 W.	5	27 2			Mr. Clerke.
		12 53½	N. 72 57½ W.	2	27 27½			
		12 27⅙	S. 46 39⅙ E.	6	32 40	48 48	61 20	Mr. Pickersgill.
		13 42	S. 48 24⅙ E.	6	32 20			
♃	—— 4.	14 10	N. 70 12⅓ W.	9	27 54½	49 37⅖	59 25	
		5 13	N. 75 25⅖ W.	7	33 8½	49 37⅖	59 22	
♀	—— 5.	12 43⅚	N. 68 37⅗ W.	9	30 37½	48 34	59 6	Capt. Cook.
		11 34	N. 69 16½ W.	4	31 16½			
♄	—— 6.	3 8⅖	N. 77 12½ W.	11	32 24½	48 8½	60 25	Capt. Cook.
☉	—— 7.	6 55½	N. 73 51⅐ W.	8	31 8	49 8⅖	63 8	
♂	—— 9	18 18⅘	S. 62 2 E.	9	27 33	49 50	65 10	Capt. Cook.
♀	—— 12.	12 40½	N. 62 53⅓ W.	8	32 33	53 6½	71 25	Mr. Gilbert.
		12 39⅔	S. 50 17⅓ E.	7	34 45½	53 32	72 57	Mr. Cooper.
		13 32	S. 52 51⅓ E.	7	33 10½			Mr. Gilbert.
☉	—— 14.	20 0⅚	N. 46 33⅘ W.	7	36 12	55 40⅖	74 50	Capt. Cook.

1773	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s Center	No. of Compass	Variation West	Latitude South ° ′	Longitude East	Observers, and Remarks
☽ Feb 15	18 27	N 45 0 W	6	39 11	57 4	80 9	
	12 19	N 56 49½ W	8	36 53	57 6	80 12	Mr Gilbert
	11 28	N 56 4[illegible] W	6	38 22	57 6	80 12	Mr Pickersgill
☿ —— 17	4 39	S 33 50 E		41 45	57 54	83 6	Ditto
	33 14½	S 87 23 E	11	39 35	57 64	83 40	Capt Cook
♃ —— 18	17 57½	N 44 45 W	5	37 44	58 2	84 42	Mr Pickersgill
	16 59	N 45 20 W	6	38 45			
	14 32	N 48 6 W	5	39 58	58 2	84 42	
	4 57	N 62 26 W		37 8	58 5	84 48	Capt Cook
♀ —— 19	8 27½	S 42 15 E	5	40 53	58 49	91 2	Mr Clerke
	10 24	S 43 32 E.	5	42 49			
♄ —— 20	11 26⅞	N 51 20 W	9	40 13	58 46	91 58	Capt Cook
	9 8	N 54 33 W	5	40 49	58 46	91 59	Mr Clerke
	13 42	S 57 18½ E	6	35 17	58 55½	92 45	Mr Pickersgill
	14 33¾	S 58 6 E	5	35 56			Mr Gilbert
☉ —— 21	21 9½	S 65 57 E	4	40 58¼	59 19	93 55	
♃ —— 25	12 26	N 43 14 W	7	42 29¼	60 49	96 10	
	11 8	N 44 16 W	7	43 45			Capt Cook
	7 41 7/10	S 44 56 E.	10	41 23	60 58	97 26	Mr Clerke
	8 46½	S 47 36 E	6	40 31			Mr Burr
	9 35	S 48 19 E	5	41 17			Mr Gilbert.
☿ March 3	22 27	N 22 21½ W	7	39 16	60 12¼	110 52	Ditto
♄ —— 6	15 11½	N 41 47½ W	7	32 11	59 56½	119 7	
☉ —— 7	10 6⅚	S 69 25½ E	7	28 33	59 44	121 18	Mr Gilbert.
	13 53¼	S 73 1¼ E	4	31 47			
☽ —— 8	11 17¼	N 53 25 W	8	26 12	59 44	121 20	Gregory's Compass } Capt Cook
	9 54½	N 53 40 W	5	28 25			Knight's ditto } Capt Cook
☿ —— 10	10 29½	S 88 26 E.	8	11 39½	57 52½	130 2	Mr Pickersgill
	12 16¼	S 89 37 E	4	13 38			
	14 12½	S 92 52 E	5	13 29			
♃ —— 11	10 45	N 86 32½ E	7	8 24	58 55	131 38	Greg Comp Ship's head N
	14 16	N 83 36 E	3	11 46			Knight's ditto Ship's head S
	14 58½	N 82 30½ E	7	11 57			Gregory's ditto Ship's head south'ly
	17 40	N 71 40 E.	2	6 18			Ditto Ship's head northerly
	19 26½	N 79 50 E	3	9 4			Knight's ditto Ship's head south'ly
♄ —— 13	13 59	N 63 50 W	3	7 37	58 44	133 50	Ship's head S S E
	13 19	N 64 6 W.	3	10 35			Ship's head N E
☽ —— 15	27 42¼	N 36 38¼ E	4	0 55	58 52½	142 24	Capt Cook
	28 18	N 36 0 E.	6	2 29¼			
				East			
♂ —— 16	11 40¼	N 73 30 W	4	0 27	58 53	143 55	Capt Cook
♃ —— 18	14 34	N 81 46½ W.	9	14 12	56 7		Ditto
	10 7	S 91 0 W.	3	13 4	56 6	150 10	Mr Gilbert.
	9 34½	S 85 53¼ W.	4	17 19	56 3		Capt. Cook.
	8 17	S 86 50 W	1	14 21	56 3		Ditto
♄ —— 20	14 29	N 83 33 W	5	13 41	52 48	154 56	Mr Gilbert

1773.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s center. ° ′	No. of Obs.	Variation Eaſt. ° ′	Latitude South. ° ′	Longitude Eaſt. ° ′	Obſervers and Remarks.
♄ March 20.	13 24 1/10	N. 84 14 W.	5	12 43	52 47 1/2	154 56	
	12 20 1/3	N. 87 56 W.	5	14 52	52 47		Mr. Pickerſgill.
☽ —— 22.	16 58 1/2	N. 81 3 1/2 W.	3	13 32	49 28 1/2	169 38	Mr. Gilbert.
	14 19 1/6	N. 85 45 1/2 W.	3	14 37			Ditto.
	12 35 1/4	N. 87 56 1/2 W.	4	14 31			
	11 10 1/10	N. 88 29 W.	5	13 14			Mr. Clerke.
♂ —— 23.	15 10 1/2	N. 83 3 1/2 W.	3	12 19 1/2	47 29	161 54	Mr. Gilbert.
	12 49	N. 87 32 1/4 W.	6	13 54	47 28		
☿ —— 24.	18 53 1/2	N. 78 18 1/4 W.	4	12 7	46 29 1/2	163 55	Mr. Gilbert.
	17 58 1/4	N. 78 48 W.	5	11 26	46 23 1/2		
☽ June 14.	12 21 1/4	N. 22 36 1/2 E.	3	11 43	46 41 1/2	185 50	
♂ —— 15.	8 45 1/4	N. 52 27 1/2 W.	7	11 16	46 52 1/4	186 4	
♂ —— 22.	9 44 1/2	N. 51 25 W.	6	9 3 1/4	44 37 1/2	196 30	Ship's head Eaſt.
☿ —— 23.	8 34 3/4	N. 55 35 W.	7	11 21	44 37 1/4	197 53	Ditto, South.
☽ —— 28.	4 7 1/4	N. 45 50 E.	1		42 37 1/4	198 39	
	12 51 3/4	N. 32 18 1/2 E.	3	7 54 3/4	42 39 1/2	198 42 1/2	
♂ —— 29.	3 46 1/2	N. 45 19 E.	5	7 40	43 5	199 40	
	11 14	N. 33 41 E.	5	8 45	43 5 1/2	199 45	
♃ July 1.	11 51 1/2	N. 48 25 W.	5	6 55	43 7 1/2	201 58 1/2	
	6 25	N. 40 44 1/6 E.	6	6 59 1/4	43 2 1/2	203 8	
♀ —— 2.	7 57	N. 55 45 W.	6	5 59	43 2 1/2	203 20	
	10 33 1/2	N. 36 28 E.	5	7 10 1/2	43 14	204 23	
♄ —— 3.	8 27 1/2	N. 54 58 W.	5	8 13	43 22 1/2	204 58	
♀ —— 9.	8 47 5/6	N. 44 27 1/2 E.	9	2 47 1/4 :	43 27 1/2	215 20	
♄ —— 10.	15 41 1/2	N. 31 43 1/2 E.	7	4 5	43 33 1/2	217 50	
☉ —— 11.	11 41 1/4	N. 48 44 W.	5	5 35 1/4	43 32 1/2	218 30	
	12 41	N. 36 30 1/2 E.	7	5 35	43 17 1/2	219 26	
☽ —— 12.	8 14	N. 53 59 1/6 W.	6	5 4	43 14 1/2	219 57	
♄ —— 17.	8 4 1/2	N. 48 40 E.	7	6 16	38 4 1/2	226 32	
☉ —— 18.	11 17 1/10	N. 56 43 1/2 W.	7	5 5	37 49	226 46	
☽ —— 19.	9 36 1/2	N. 65 22 1/2 W.	7	5 33 1/4	36 25 1/2	227 5	
	14 53 3/4	N. 43 54 E.	5	6 5 1/2	35 35	226 57	
☿ —— 21.	15 23 5/6	N. 48 56 1/2 E.	3	4 51 : :	31 18 1/2	225 40	
♃ —— 22.	12 55 1/2	N. 61 50 W.	6	5 21 1/4	30 47 1/4	225 31	
	8 40 1/2	N. 55 11 1/2 W.	7	5 34	29 34	225 6	
☽ —— 26.	10 17 1/2	N. 66 20 W.	5	5 24 1/2	28 43	224 41	
	10 43 1/10	N. 56 7 E.	5	4 59 1/2	28 1	224 55	
♂ —— 27.	11 1 7/8	N. 55 0 E.	4	6 18 1/2	27 43	224 41	
☉ Aug. 1.	11 15 3/4	N. 59 22 E.	7	5 16 1/2	23 25	226 3	
☽ —— 2.	8 43 1/2	N. 62 18 E.	5	4 26	22 22	226 15	
♂ —— 3.	12 7 1/6	N. 70 12 W.	5	5 1 1/2	22 0	226 10	
☿ —— 4.	13 46 2/3	N. 70 6 W.	5	5 10	21 12	226 30	
♂ —— 10.	13 53 1/4	N. 62 6 1/2 E.	3	6 30	17 17 1/2	218 15	
♃ —— 12.	16 6 1/2	N. 61 35 1/2 E.	7	6 45	17 16 1/4	215 24	
♄ —— 14.	10 57	N. 63 41 E.	5	7 24	17 42 1/4	211 50	Mr. Gilbert.
♂ —— 24.	9 17 1/2	N. 69 27 E.	5	5 54 1/2	17 29	210 40	

1773	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s center	No. of Obs.	Variation East	Latitude South °	Longitude East °	Observers and Remarks
☉ Sept 5	8 38 1/6	N 85 2 W	5	4 51 1/2	16 44 1/4	208 52 1/2	Knight's compass
	6 33 1/2	N 85 40 W	3	4 50	16 44 1/4	208 52 1/2	Gregory's ditto
♄ —— 18	7 54 1/2	N 77 20 E	5	8 26 1/4	17 34	206 10	Mr Gilbert.
☉ —— 19	14 4	S 87 36 W	5	8 36 1/2	} 17 47	} 205 20	Ditto.
	12 11 1/2	S 87 15 W	5	8 18			
♂ —— 21	19 16 1/2	S 88 12 W	5	9 18	18 28 1/2	} 203 47	Mr Gilbert
	8 34 9/10	S 84 33 W	5	9 6 1/2	18 29 1/2		
	15 17 1/2	N 75 39 E	5	8 34 1/2	18 36	} 203 15	
	17 5	N 75 36 E	5	7 58	18 36 1/2		Mr Gilbert.
☉ —— 26	12 14	N 75 17 E	5	11 42	20 36	194 36	
☽ —— 27	17 45 1/2	N, 74 23 E	5	9 44	20 58 1/2	192 5	
☿ —— 29	4 6 1/2	S. 78 11 W	5	10 42 1/4	21 26 1/2	189 38	Mr Gilbert.
	Time by Watch K. H ″						
☉ Oct 3	7 5 16	N 76 32 1/2 E	7	10 28	21 4 1/4	185 9 1/4	
	Alt. ☉'s L L						
♃ —— 7	14 27 1/2	S 78 50 W	5	10 44	21 10	185 2	
	19 35 1/2	N 76 47 1/2 E.	7	11 35	21 56	184 45	
♀ —— 8	13 47 1/4	S 79 27 W	5	9 50 1/4	22 6 1/4	184 40	
☿ —— 13	16 20 1/2	N 78 56 1/2 E	8	10 39	} 28 27	180 13	Mr Pickersgill.
	17 29 1/2	N 79 7 E	5	10 39			
♃ —— 14	10 24 1/2	N 82 31 E	5	11 34 1/2			
♀ —— 15	12 39 1/2	S 76 33 1/2 W	7	10 52	29 47	179 56	Mr Gilbert
	11 27 1/4	N 82 56 1/2 E	6	10 26 1/2	30 36	179 57	
	12 36 9/10	N 81 12 E	5	11 28	} 31 16 1/4	179 56	Mr Clerke.
♄ —— 16	17 4 1/6	S 79 18 1/2 W	6	10 43 1/2			
	15 29 1/2	S 77 13 W	5	11 48 1/4	} 32 0 1/10	179 55	Mr Clerke.
☉ —— 17	6 30 1/2	S 71 31 1/2 W	6	10 33			
	12 51 9/10	N 82 0 E	6	11 0	32 52 1/2	179 56	Mr Gilbert.
☿ —— 20	14 14 1/4	N 76 59 1/2 E	6	15 12	33 24	180 12	
♄ Nov 27	13 34 1/2	S 59 37 1/2 W	5	13 57 1/2	38 54 1/2	179 12	Mr Gilbert.
	11 32	S 59 48 W	5	11 51	} 44 3	176 5	Capt Cook.
☉ —— 28	15 15 1/6	S. 61 0 W	5	13 56			Ditto
♄ Dec 4	11 39 1/2	S 86 58 E	6	17 51 1/2	44 28	176 45	
☉ —— 5	21 47 1/2	S. 62 35 W	6	18 16 1/2	50 4 1/2	179 59	
♂ —— 7	23 20 1/2	S 66 36 W	5	19 27	50 18 1/2	179 44	
	22 0	S 67 12 1/2 W	6	15 19	53 45	} 180 43	Mr Pickersgill
♄ —— 11	28 2 1/2	S 78 0 1/2 W	10	15 4 1/2	53 46		Mr Gilbert. Uncertain because of ship's motion.
☉ —— 12	12 34 1/2	S 46 39 W	5	16 49 1/2	61 13 1/2	187 45	
	12 1 9/10	S. 44 49 1/6 W	6	17 30	63 10 1/2	} 190 55	Mr Pickersgill.
♄ —— 18				20 18	63 10 1/2		
☉ —— 19	23 54 1/6	S 73 38 1/2 W	10	12 8	64 26	209 13	Log Book
♀ —— 24	24 37 2/3	S 69 21 W	10	18 46	64 53 1/3	211 45	Gregory's compass.
	23 10 9/10	S. 69 13 W	10	25 32	} 67 4	223 20	Knight's ditto

1773.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s center. ° ′	No. of Obs.	Variation East. ° ′	Latitude South. ° ′	Longitude East. ° ′	Observers and Remarks.
☉ Dec. 26.	22 41$\frac{1}{10}$	S. 67 53$\frac{1}{2}$ W.	6	15 40	66 5	226 30	Gregory's compafs.
	22 7$\frac{1}{2}$	S. 66 15$\frac{3}{8}$ W.	6	15 40	66 5	226 30	Knight's ditto.
☿ —— 29.	21 23$\frac{2}{3}$	S. 66 17 W.	10	14 29	62 8	225 58	Ditto.
♃ —— 30.	19 45$\frac{1}{3}$	S. 64 16$\frac{1}{4}$ W.	10	13 43$\frac{3}{4}$	61 7	225 22	Ditto : cloudy.
♀ —— 31.	19 27$\frac{1}{6}$	S. 71 23$\frac{1}{2}$ W.	10		59 38	225 14	Ship's head E. Knight's compafs.
	8 33$\frac{2}{3}$	S. 46 19$\frac{1}{2}$ W.	10	12 2$\frac{1}{2}$	59 36$\frac{1}{2}$		Ditto, N. W.
1774.							
♄ Jan. 1.	15 41$\frac{1}{2}$	S. 57 30$\frac{1}{2}$ W.	10	14 4	58 47	224 3	Ship's head, N.W. K's comp.
	15 21$\frac{1}{3}$	S. 84 26 E.	10	13 27	58 4	223 22	Knight's compafs.
♃ —— 6.	18 14$\frac{3}{4}$	S. 69 35 W.	4	7 7$\frac{1}{2}$	51 40	225 6	Cloudy, and much motion.
♀ —— 7.	13 28$\frac{2}{3}$	S. 64 39$\frac{3}{8}$ W.	8	6 32	50 17	227 20	
	12 59$\frac{2}{3}$	S. 77 18 E.	5	6 26	49 37	229 50	Mr. Clerke.
♂ —— 11.	13 41$\frac{9}{10}$	S. 69 54$\frac{2}{3}$ W.	9	2 41	48 21$\frac{1}{4}$	238 30	Knight's compafs.
	28 36$\frac{1}{10}$	S. 91 0 E.	10	1 35	49 11$\frac{1}{3}$	239 53	
☿ —— 12.	15 12$\frac{1}{8}$	S. 69 48$\frac{1}{4}$ W.	8	4 37$\frac{3}{4}$	50 7	240 35	Gregory's ditto.
	13 5$\frac{1}{8}$	S. 67 3$\frac{1}{3}$ W.	6	4 54$\frac{2}{3}$			Knight's ditto.
☉ —— 16.	12 13$\frac{1}{10}$	S. 61 2$\frac{1}{2}$ W.	6	9 23$\frac{1}{2}$	56 57	240 47	Gregory's ditto.
	10 53$\frac{1}{3}$	S. 59 30 W.	8	8 49			Knight's ditto.
☿ —— 19.	18 38$\frac{3}{8}$	S. 92 32$\frac{1}{2}$ E.	6	10 26$\frac{1}{2}$	62 28	244 0	Gregory's ditto.
♄ —— 22.	23 16$\frac{1}{5}$	S. 82 1$\frac{1}{2}$ W.	10	9 48	62 4$\frac{3}{4}$	248 1	
☽ —— 24.	34 40$\frac{1}{5}$	N. 40 31$\frac{7}{8}$ E.	8	15 48$\frac{3}{8}$	65 15$\frac{3}{8}$	250 55	Ship's head, S.S.E. Capt. Cook.
	35 33$\frac{1}{3}$	N. 28 5$\frac{3}{5}$ E.	8	25 27$\frac{3}{4}$	65 16		Ditto, S. W. by W.
	36 26$\frac{3}{4}$	N. 31 0 E.	4	19 38	65 16		Ditto, S. S. E.
♂ —— 25.	14 12$\frac{3}{4}$	S. 56 7$\frac{1}{2}$ W.	6	19 26$\frac{1}{2}$	65 45	250 45	Capt. Cook.
	21 33$\frac{1}{6}$	N. 69 11$\frac{1}{6}$ E.	8	18 22	66 19	250 40	Ditto.
♀ —— 28.	9 44$\frac{6}{7}$	S. 87 23$\frac{4}{7}$ E.	7	23 11	69 30$\frac{2}{3}$	251 57	Mr. Clerke.
	27 11$\frac{3}{8}$	S. 44 37$\frac{2}{5}$ E.	9	22 11$\frac{1}{2}$	69 43	252 16	Capt. Cook.
♄ —— 29	19 42$\frac{3}{5}$	S. 67 21$\frac{7}{8}$ W.	8	24 46	70 20	253 3	Mr. Clerke.
	19 13$\frac{1}{2}$	S. 66 12 W.	5	24 32			
☽ —— 31.	22 10$\frac{1}{5}$	N. 51 57 E.	5	28 32	68 13	255 15	Ditto.
♃ Feb. 3.	19 33$\frac{3}{8}$	S. 70 38$\frac{1}{2}$ W.	10	23 1$\frac{3}{4}$	66 16$\frac{1}{4}$	258 45	Gregory's compafs.
	17 13$\frac{1}{5}$	S. 64 45$\frac{1}{2}$ W.	10	23 34			Knight's ditto.
	21 59$\frac{1}{5}$	N. 57 10$\frac{1}{6}$ E.	6	23 25$\frac{2}{5}$	65 47$\frac{3}{4}$	260 24	Mr. Clerke.
	24 22$\frac{2}{3}$	N. 50 9 E.	5	24 47$\frac{1}{3}$	65 47$\frac{1}{4}$		Capt. Cook.
♀ —— 4	19 58$\frac{1}{3}$	S. 67 31 W.	5	27 7$\frac{2}{3}$:	65 34	260 14	Ditto.
♄ —— 5	15 32$\frac{1}{2}$	S. 66 51$\frac{2}{3}$ W.	6	18 49$\frac{1}{2}$	63 57$\frac{2}{5}$	260 8	Mr. Pickerfgill.
	14 41$\frac{1}{3}$	S. 64 35 W.	5	19 22$\frac{2}{3}$	63 57$\frac{1}{5}$		
♃ —— 10.	18 53$\frac{2}{5}$	S. 75 45 W.	5	15 32	53 7	262 50	Mr. Clerke.
	18 10	S. 75 13 W.	5	15 5			
♄ —— 12.	5 2$\frac{1}{2}$	S. 60 43$\frac{1}{3}$ W.	6	13 55$\frac{2}{5}$	50 11	264 35	
☉ —— 13	16 34$\frac{1}{3}$	S. 74 23$\frac{1}{5}$ W.	10	14 40	50 30$\frac{3}{4}$	263 36	
☽ —— 14.	15 40$\frac{3}{4}$	S. 75 46$\frac{7}{8}$ W.	8	12 31$\frac{3}{4}$	49 28	264 4	Mr. Pickerfgill.
	14 6$\frac{1}{7}$	S. 73 31$\frac{3}{7}$ W.	7	12 58			
♀ —— 18.	14 30$\frac{2}{5}$	S. 74 28$\frac{1}{2}$ W.	6	13 16 : :	43 40$\frac{2}{5}$	265 45	Great motion.
♄ —— 19	14 14$\frac{1}{10}$	S. 77 32$\frac{3}{4}$ W.	9	10 5$\frac{1}{5}$	41 41	265 3	Gregory's compafs.
☉ —— 20.	14 33$\frac{2}{3}$	S. 80 28$\frac{1}{2}$ W.	10	7 21$\frac{1}{5}$	39 32	266 0	Knight's ditto.

1774.	Altitude of the ☉ L L	Magnetic Azimuth of the ☉'s Center	No. of Obs.	Variation East	Latitude South	Longitude East	Observers, and Remarks
	° ′	° ′		° ′	° ′	° ′	
☉ Feb 20	13 23½	N 8, 41 E	11	8 3	38 22	266 18	Gregory's Compass
☽ —— 21	22 41⅓	N 78 25⅓ E	6	7 41	36 24	265 54	Ditto
☿ —— 23	15 15½	S 79 13⅓ W	6	9 51⅚	36 49	263 9	Ditto
	16 54½	N 80 32 E	10	8 8	37 16	262 5	Knight's Compass
♀ —— 25	13 18	S 81 5 W	10	6 50	37 44	259 21	Ditto
☉ —— 27	11 24⅞	S 83 33 W	10	4 9	34 31⅓	257 57	Gregory's Compass
☽ —— 28	20 3⅘	N 83 8⅓ E	9	3 15	32 27½	25/ 25	
♂ March 1	12 12⅘	S 84 18 W	10	4 23	32 6	257 30	Gregory's Compass
	16 5½	N 83 21⅞ E	8	5 4	31 25	257 42	Knight's ditto
☿ —— 2	14 36½	S 85 19 W	10	5 2⅓	31 5	257 52	Ditto
♃ —— 3	9 23½	S 83 8¼ W	8	4 26½	30 25½	258 45	Gregory's Compass
	12 46	N 84 56½ E	10	5 13	30 8	259 3	Knight's ditto
♀ —— 4	12 19½	S 83 58⅓ W	6	5 40	29 51½	259 16	Ditto
	12 26¼	N 83 11½ E	9	6 53	29 46	259 27	Ditto
♄ —— 5	11 49⅞	S 84 19⅝ W	8	5 26½	29 42	259 24	Gregory's Compass
☉ —— 6	9 44	S 84 36 W	10	4 11	29 11	258 48	Knight's ditto
☽ —— 7	12 15⅒	N 84 51½ E	10	4 31	28 2	256 26	
☿ —— 16	10 46⅓	S 89 6⅙ W	13	4 30⅓	27 7	250 7	Off Easter Island
	15 30⅛	N 80 4⅛ E	8	3 32⅓	26 56	249 50	
♃ —— 17	8 25⅓	N 83 46 E	10	3 15	26 16½	248 50	
♀ —— 18	4 40¾	S 88 39½ W	7	2 47	25 54	248 35	
	11 50⅛	N 81 21⅞ E	8	3 41	25 36	248 20	
♄ —— 19	9 57⅓	S 90 31½ W	6	3 29	24 32½	248 7	
	14 36⅛	N 80 44⅗ E	6	3 5⅖	23 26½	247 40	
♃ —— 24	14 55½	N 85 39⅙ W	6	1 52	16 54½	243 10	
♀ —— 25	9 52½	N 82 28½ E	10	2 31½	15 6	241 0	
♄ —— 26	9 33¼	N 87 50⅛ W	9	2 38	14 26⅓	240 18	
	17 37	N 80 35½ E	10	2 23¼	13 31	239 20	
☉ —— 27	9 30½	N 87 10 W	5	2 10	12 55	238 45	
	10 52⅓	N 82 29⅛ E	8	2 13	12 3⅓	237 45	
☽ —— 28	9 36⅛	N 87 28 W	8	2 31	11 30	237 10	
	11 36½	N 82 10 E	10	2 17	10 39⅓	236 20	
♂ —— 29	10 35½	N 87 38¼ W	10	3 3	10 10	235 40	
	16 54⅛	N 80 30 E	6	2 43¼	9 34¼	233 20	
☿ —— 30	9 28⅓	N 81 6 E	10	3 14	9 18⅖	232 8	
♃ —— 31	9 8½	N 79 55 E	10	4 3	9 27	230 14	
♀ April 1	9 58¼	N 79 29½ E	10	3 56	9 28½	228 26	
♄ —— 2	9 31½	N 78 5½ E	10	3 58½	9 32½	226 44	
☉ —— 3	12 22½	N 77 52 E	10	4 15	9 32½	224 58	
☽ —— 4	14 29½	N 76 50 E	7	4 27	9 33½	223 20	Cloudy
♂ —— 5	9 33½	N 77 42½ E	10	4 13½	9 21	222 2	
☿ —— 6	8 55½	N 76 4 E	10	5 33¾	9 36½	221 10	
♄ —— 9	12 14½	N 81 23⅓ W	6	1 28	9 55½	220 51½	At anchor in Resolution Bay,

in the island Ohitahoo, one of the Marquesas. I can assign no reason for the smallness of the preceding variation, if it was not occasioned by drawing the binacle a little towards the larboard side of the ship, to have the sun clear of some plantains which were hung up aft.

1774.	Altitude of the ☉'s L. L. ° '	Magnetic Azimuth of the ☉'s Center. ° '	No. of Obs.	Variation East. ° '	Latitude South. ° '	Longitude East. ° '	Observers, and Remarks.
♂ April 12.	15 23 4/5	N. 82 26 1/4 W.	8	4 22 1/4	9 50	220 48	
	11 50 2/5	N. 72 59 1/4 E.	10	5 28 1/5	10 30	220 8	
☿ —— 13.	6 46 1/4	N. 74 0 1/5 E.	8	5 1 1/10	11 52	219 10	
♃ —— 14.	9 13	N. 84 3 1/4 W.	10	6 3 1/5	12 42	218 37	
	12 24 1/3	N. 70 56 2/5 E.	6	5 51 1/3	13 20	217 48	
♀ —— 15.	13 50	N. 69 31 1/4 E.	10	6 9	14 17 1/2	216 36	
♄ —— 16.	15 30 2/7	N. 68 44 1/4 E.	10	5 55	14 29	215 22	
☉ —— 17.	10 3 1/6	N. 70 58 1/4 E.	10	5 5	14 34 1/2	214 45	
☽ —— 18.	5 30 1/3	N. 69 22 1/2 E.	6	7 33 ::	15 33	213 43	
☿ —— 20.	8 41 1/4	N. 67 54 1/4 E.	10	6 51 1/2	17 12 1/2	211 18	
♄ May 21.	7 25 1/4	N. 71 58 1/3 W.	6	5 44 1/2	16 42 4/5	208 50 2/5	In Owharre harbour, Huaheine. The two first were taken on board the ship, the two latter on shore. I used the same compass, but two different cards.
	6 0 5/6	N. 71 39 1/6 W.	6	4 53	16 41 4/5	208 50 2/5	
☉ —— 22.	9 54 5/6	N. 70 29 1/6 W.	6	5 28 1/2	16 42 4/5	208 50 2/5	
	7 35 1/6	N. 71 14 1/6 W.	6	5 16 2/5	16 42 4/5	208 50 2/5	
☉ —— 29.	11 63 3/5	N. 68 55 1/8 W.	6	6 9 1/6	16 45 3/5	208 23 1/4	Taken on board the ship in Ohamaneno harbour, Uliatea. I used the same compass-box in every one, but two different cards.
	10 18 1/4	N. 69 11 2/5 W.	6	5 43 1/3	16 45 3/5	208 23 1/4	
☽ —— 30.	5 53 1/4	N. 71 24 1/6 W.	6	6 17 1/3	16 45 3/5	208 23 1/4	
	4 59 2/5	N. 71 59 1/6 W.	6	6 31 2/5	16 45 3/5	208 23 1/4	
♂ —— 31.	9 55 1/3	N. 69 21 2/5 W.	6	6 2 2/5	16 45 3/5	208 23 1/4	
	8 31 2/5	N. 69 34 1/6 W.	6	5 40 1/6	16 45 3/5	208 23 1/4	
☿ June 1	15 25 1/10	N. 67 6 2/5 W.	6	6 30 2/5	16 45 3/5	208 23 1/4	On shore in Ohamaneno harbour.
	13 13 1/10	N. 67 58 1/3 W.	6	6 17 5/6	16 45 3/5	208 23 1/4	
☉ —— 5.	17 46 3/5	N. 52 53 E.	10	6 0	16 49 1/2	206 30	Cloudy, and uncertain.
☿ —— 8.	7 13 1/4	N. 71 6 1/5 W.	9	7 55 1/3	17 33	204 4	
	8 55	N. 64 5 3/5 E.	8	8 16	17 37 1/2	203 48	
♃ —— 9.	9 12 3/4	N. 70 14 W.	10	8 3 2/5	17 40	203 22	
♀ —— 10.	7 12 1/10	N. 71 38 1/4 W.	10	8 43	17 48 1/2	202 50	
	11 8	N. 52 15 E.	8	8 49	17 51	202 35	
☽ —— 13.	6 43	N. 53 21 1/4 E.	10	9 15 1/2	18 40 1/2	197 37	
♂ —— 14.	6 35 2/5	N. 71 10 W.	10	8 29 1/6	18 34 2/5	197 23	
	5 51 1/2	N. 54 40 E.	10	8 19	18 32	197 24	
☿ —— 15.	7 57 9/10	N. 71 27 2/5 W.	5	9 24	18 25	197 10	
	7 43 9/10	N. 52 54 E.	10	9 16 1/2	18 21	196 54	
♃ —— 16.	8 31 1/4	N. 51 51 1/4 E.	10	10 1	18 0 1/3	196 0	
♀ —— 17.	7 44 9/10	N. 51 42 1/5 E.	10	10 23	18 16	194 31	
♄ —— 18.	8 25 9/10	N. 51 17 1/5 E.	10	10 26 1/2	18 22 1/4	193 4	
☽ —— 20.	12 28	N. 49 51 E.	10	9 38	18 54 1/4	190 40	
♂ —— 21.	4 12	N. 74 56 1/2 W.	10	11 25	19 3 1/3	190 20	
	11 11 1/4	N. 49 9 1/2 E.	10	10 48 1/2	19 20	189 56	
☿ —— 22.	14 0 1/4	N. 69 30 W.	5	11 8 2/5	19 27 1/4	189 36	
	8 22 1/4	N. 50 17 1/4 E.	9	10 59	19 43	188 39	
♃ —— 23.	8 19 4/5	N. 49 24 E.	10	11 40 1/2	20 24 1/4	186 52	Ship's head W. S. W.
♀ —— 24.	13 49 1/4	N. 48 43 1/4 E.	8	9 21 1/4	20 12	186 10	Ditto E. S. E.
♄ —— 25.	11 31 1/2	N. 47 16 1/4 E.	8	12 6 1/2	20 26 3/5	185 42	Ditto W. S. W.

	1774.	Altitude of the ☉'s L. L.	Magnetic Azimuth of the ☉'s Center	No. of Obs.	Variation East	Latitude South ° ′	Longitude East ° ′	Observers, and Remarks
☉	June 26	5 57⅘	N 51 17 E	10	11 5¼	20 15	185 29¼	Ship's head E S E; At anchor off Anamocka, one of the Friendly Isles
☽	—— 27	6 8⅙	N 71 24⅙ W	6	9 7¼	20 15	185 29¼	Ditto N E
		Amplit	N 74 [illegible] W	1	9 18¼	20 15	185 29¼	Ditto N E
		Amplit	N 55 20 E	1	9 41¼	20 15	185 29¼	Ditto E N E
		11 17¼	N 50 11¼ E	10	9 29¼	20 15	185 29¼	Ditto E N E
♂	—— 28	7 38½	N 71 35 E	8	9 59¼	20 15	185 29¼	Ditto E N E
☿	—— 29	7 45¼	N 73 26 W	10	11 49½	20 10	185 25	Ship's head S S W
		18 5½	N 44 39⅔ E	8	11 8¼	20 1¼	184 40	Ditto N W
♄	July 2	10 23½	N 47 56 E	10	12 47	19 45	182 13	
☉	—— 3	13 30⅞	N 71 6¼ W	8	12 9	19 48¼	182 0	
		10 40½	N 48 41½ E	5	11 52⅙	19 58	181 40	
☽	—— 4	3 51½	N 76 9 W	10	12 17	20 10¼	181 20	
		Amplit	N 78 10 W	1	12 40	20 11	181 18	
		5 56¼	N 50 28¼ E	8	12 29¼	20 34½	180 44	
♂	—— 5	10 2½	N 48 0 E	3	12 44	20 52	179 34	
☿	—— 6	16 31⅘	N 44 44 E	10	12 17¼	20 53½	178 41	Mr Clerke
♃	—— 7	12 3⅓	N 46 54½ E	10	12 59	20 47¼	177 50	Cloudy
♀	—— 8	6 52⅓	N 49 47½ E	10	13 8	20 20	176 23	
☉	—— 10	6 5	N 74 45½ W	7	11 1	19 30½	175 08	Cloudy
		9 48⅘	N 51 56⅞ E	8	10 21⅘	18 49½	175 14	Ditto
☽	—— 11	10 3⅒	N 52 19 E	10	10 28¼	17 38⅙	174 29	
♂	—— 12	5 18⅗	N 54 46½ E	6	10 24½	16 37	173 38	Gregory's Compass
		8 26⅓	N 53 20 E	6	10 38¼			Knight's ditto
☿	—— 13	6 14½	N 75 30⅕ W	10	10 35	16 15¼	173 15	Gregory's ditto
		7 31¼	N 54 30½ E	10	10 13¼	15 49	172 42	Knight's ditto
♃	—— 14	11 28⅓	N 52 30 E	10	11 3¼	15 13¼	171 38	Ditto
♀	—— 22	23 33⅗	N 49 20⅗ E	6	9 16¼	16 24	167 53	Capt Cook Ship's Comp
☉	—— 24	15 5	N 51 49 E	10	11 24	17 6	168 36	
☽	—— 25	12 3⅓	N 74 13 W	5	9 36½	17 23	168 38	
		10 12	N 56 50⅗ E	6	8 44½	17 21⅕	168 38	
♂	—— 26	14 15⅓	N 54 25 E	10	9 18¼	17 52¼	169 10	
☿	—— 27	13 5⅙	N 73 20 W	5	9 2¼	18 12¼	169 30	
		6 14½	N 55 19½ E	6	12 6	18 25	169 47	
♃	—— 28	10 16¼	N 77 59 W	10	12 12⅔	18 24	169 46	Ship's head S W
		8 42⅓	N 56 30 E	5	10 7¼	18 25¼	170 3	Knight's Comp Ship's head S E
		12 9⅓	N 56 21 E	5	8 43	18 26¼		Ship's ditto Ship's h ditto
		13 14⅒	N 55 46 E	5	8 47	18 26¼		Gregory's dit Ship's h ditto
♀	—— 29	10 28⅓	N 78 13 W	10	12 19	18 34¼	170 3	Knight's dit Ship's h S W
♄	—— 30	10 21⅓	N 78 6⅞ W	8	12 26	18 30	169 42⅔	Gregory's ditto Ship's h S S W
		8 22½	N 79 48¼ W	6	12 37¼	18 29¼		Knight's ditto
		10 16	N 55 9½ E	6	11 19¼	18 23¼	169 34	Gregory's ditto Ship's h Easterly
		12 49	N 55 50⅗ E	6	9 38¼	18 23¼		Knight's ditto
☉	—— 31	9 45	N 78 16½ W	6	11 2½	18 24¼	169 32	Ditto Ship's head South
		8 34⅙	N 78 45⅗ W	6	11 26½			Gregory's Comp
		Amplit.	N 81 45 W	1	11 3¼			Ditto
		18 5⅕	N 50 4⅙ E	6	12 11¼	18 24⅔	169 15	Ship's head S W

1774.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s Center. ° ′	No of Obs.	Variation East. ° ′	Latitude South. ° ′	Longitude East. ° ′	Observers, and Remarks.
☽ Aug. 1.	13 0 1/10	N. 77 5 1/6 W.	6	11 38 1/4	18 47	169 10	
	15 59 2/5	N. 53 8 1/5 E.	6	11 6 1/4	18 44	169 2	
♂ —— 2.	8 14 2/5	N. 78 49 1/5 W.	8	10 53 1/5	18 42 1/4	169 2	
	Amplit.	N. 61 45 E.	1	10 10 1/4	18 36 1/5		
	9 18 1/10	N. 58 34 1/6 E.	6	8 8	18 36	169 15	Knight's Compass. Ship's head E. S. E.
	10 22 1/10	N. 58 25 E.	6	8 49 2/5	18 36 1/4		Gregory's ditto.
☿ —— 3.	5 11 1/4	N. 61 11 E.	10	8 27	18 43	169 20 1/4	
♃ —— 4.	7 13 1/10	N. 58 37 1/4 E.	6	10 18	19 26 2/5	169 44	Knight's Comp. Ship's h. S. S. W.
	8 41 1/4	N. 58 37 1/4 E.	6	9 30 1/6	19 26 2/5	169 44	Ship's ditto.
☉ —— 21.	5 48 1/6	N. 64 51 1/4 E.	4	10 25 1/4	18 39	168 55	Gregory's Compass.
	8 20 2/5	N. 63 56 2/5 E.	3	10 20 1/6			Knight's ditto.
☽ —— 22.	9 37 1/5	N. 64 28 1/5 E.	8	10 9 1/4	16 52	168 35	
♂ —— 23.	Amplit.	N. 88 20 W.	1		15 55	167 25	
♃ —— 25.	9 3	N. 64 54 2/7 E	7	11 26 1/4	15 6 1/4	167 3	
♀ —— 26.	Ampl.	N. 69 15 E.	1		14 45	166 56	
	7 34 1/5	N. 66 20 1/5 E.	8	10 52	14 45	166 56	
♄ —— 27.	15 1	N. 62 58 1/4 E.	8	12 14 1/4	14 47 1/5	166 35	
☉ —— 28.	10 22 1/6	N. 86 9 1/6 W.	6	9 15	14 48 2/5	166 37	
	15 23 2/5	N. 64 5 1/6 E.	6	11 19 1/6	14 57 1/6	166 34	Ship's Compass.
♂ —— 30.	9 49 2/5	N. 86 26 1/4 W.	4	8 47 1/4	15 23 1/5	166 35	Ditto.
	6 6 1/5	N. 88 5 W.	3	9 12 2/5			Knight's Compass.
♃ Sept. 1.	8 8 1/6	N. 70 5 2/5 E.	6	8 38 1/4	17 46	165 28	Cloudy.
♀ —— 2.	15 37 4/5	N. 85 51 7/5 W.	8	10 1 1/6	18 21	165 22	
♄ —— 3.	6 10 1/4	N. 89 6 1/4 W.	10	9 23	19 14 2/5	164 50	Gregory's Compass.
	8 33 9/10	N. 69 10 E.	6	9 44 2/5	19 50	164 44	Ditto.
	10 46 1/10	N. 67 35 1/6 E.	6	10 25 1/4			Knight's Compass.
☿ —— 7.	7 2 2/5	N. 73 3 E.	5	7 59 1/4	20 18	164 40	Mr. Clerke. Gregory's Comp. Ship's head Easterly.
	8 5 1/5	N. 72 22 E.	5	8 15			Gregory's Compass.
♃ —— 8.	6 0 1/6	N. 73 46 E.	5	7 42 2/5			Ditto.
	8 24 1/5	N. 72 22 E	5	8 30 1/4			Knight's Compass.
♀ —— 9.	10 31 2/5	N. 71 3 E.	10	9 25			
☉ —— 11.	10 12 1/4	N. 72 3 E.	10	9 22 1/4			
☿ —— 14.	6 25 1/4	N. 73 27 1/4 E.	8	10 52 1/6	19 10	164 0	
♃ —— 15.	11 38 2/5	N. 88 26 2/5 W.	6	9 1 2/5	19 16 2/5	164 6	Gregory's Compass.
	9 41 1/10	N. 72 31 2/5 E.	6	11 6	19 33 1/5	164 17	Knight's ditto.
	10 56 1/5	N. 72 47 1/2 E.	6	10 11 1/6	19 33		Capt. Cook. Ship's Comp.
	12 14 1/10	N. 72 26 2/5 E	6	10 2 1/5	19 33		Ditto. Gregory's ditto.
♀ —— 16.	15 53 7/8	N. 89 25 W.	8	9 22 1/4	19 34	164 23	
♄ —— 17.	16 26 1/4	N. 72 17 1/4 E.	2		20 2	164 58	Ship's Compass.
☽ —— 19.	11 49 1/5	N. 73 15 E.	6	10 52	20 25	165 50	Knight's ditto.
	13 14 4/5	N. 73 29 1/6 E.	6	10 3 1/6			Ship's ditto.
	14 51 1/4	N. 71 51 2/5 E.	6	10 2			Gregory's ditto.
♂ —— 20.	14 10 1/5	S. 86 46 2/5 W.	6	10 0 1/5	20 52	165 50	Ship's ditto.
	12 44 2/5	S. 85 30 3/8 W.	6	10 40 2/5			Knight's ditto.
	11 26 2/5	S. 85 46 2/5 W.	6	9 53			Gregory's ditto.
	9 55 9/10	N. 76 7 9/10 E.	6	10 12	20 52	166 8	

1774.	Altitude of the ☉'s L. L. ° '	Magnetic Azimuth of the ☉'s center ° '	No. of Obs.	Variation East ° '	Latitude South ° '	Longitude East ° '	Observers and Remarks.
☿ Sept. 21.	5 47	S 83 $4\frac{1}{6}$ W	6	9 58	20 $57\frac{1}{2}$	166 10	
	Amplit	N 81 30 E.	1		21 $12\frac{1}{2}$	166 42	
	9 $33\frac{1}{3}$	N 77 $49\frac{1}{6}$ E	6	7 $52\frac{4}{5}$	21 $12\frac{1}{5}$		Gregory's Compaſs
♃ —— 22	10 $47\frac{1}{2}$	S 85 31 W	5	9 12			Ship's ditto
	9 $51\frac{1}{4}$	S 85 47 W	5	8 22ᴛ	21 $37\frac{1}{6}$	166 50	Gregory's ditto
	11 2	N 76 23ᴛ E	6	9 0	21 49ᴛ	167 2	
♀ —— 23	11 $39\frac{1}{7}$	N 73 58ᴛ E.	6	11 $32\frac{1}{2}$	21 57	167 28	
☉ —— 25	11 $9\frac{9}{10}$	N 77 21ᴛ E	6	9 11ᴛ			Ship's Compaſs
	12 41ᴛ	N 77 8ᴛ E	6	8 45ᴛ	22 9ᴛ	167 28	Knight's ditto
♃ —— 29	7 $56\frac{1}{10}$	N 80 55 E	6	8 34			Ship's ditto
	9 $15\frac{1}{2}$	N 80 21 E	5	8 39	22 $28\frac{1}{2}$	167 17	Knight's ditto
♀ —— 30	10 24ᴛ	S 81 7ᴛ W	7	10 $12\frac{1}{2}$			Ship's ditto
	9 $14\frac{1}{6}$	S 80 38ᴛ W	6	10 $11\frac{1}{3}$	22 41	167 25	Gregory's ditto } By Capt Cook
	7 53ᴛ	S 78 $57\frac{1}{2}$ W	6	11 $19\frac{1}{6}$			Knight's ditto.
☉ Oct. 2	11 $1\frac{1}{2}$	S 81 $0\frac{1}{8}$ W	6	9 $52\frac{1}{2}$			Ditto
	8 $47\frac{1}{10}$	S 80 51ᴛ W	3	9 2	23 19ᴛ	169 40	Gregory's Compaſs
☽ —— 3	10 30ᴛ	N 80 36ᴛ E	6	9 19ᴛ			Ditto
	12 $52\frac{1}{2}$	N 78 $49\frac{1}{6}$ E	6	9 $43\frac{1}{6}$	25 13	171 8	Knight's Compaſs
♂ —— 4	8 $29\frac{1}{5}$	S 78 48ᴛ W	6	10 29	25 $46\frac{1}{3}$	171 $21\frac{1}{3}$	Gregory's ditto
	12 55ᴛ	N 77 15 E	6	11 22ᴛ	26 $33\frac{1}{3}$	171 35	Knight's ditto
☿ —— 5	11 $55\frac{1}{3}$	N 75 $7\frac{1}{2}$ E	6	14 10			Ditto
	13 $18\frac{1}{2}$	N 75 $35\frac{1}{6}$ E.	6	12 58	27 54	171 47	Gregory's Compaſs
	14 46	N 74 5 E.	6	13 $40\frac{1}{2}$			Knight's ditto
♃ —— 6	10 $44\frac{1}{3}$	S 80 6 W	5	9 50			Ditto, } Ship's h. S E
	8 $46\frac{1}{2}$	S 78 21 W	5	10 26ᴛ	27 52	171 45	Gregory's Comp
	15 $0\frac{1}{2}$	N 76 48ᴛ E	8	11 $17\frac{1}{5}$	27 $52\frac{1}{3}$	171 45	Ditto Ship's head N W
♀ —— 7	9 $13\frac{1}{2}$	N 77 $40\frac{1}{5}$ E.	6	13 53			Knight's Compaſs
	10 $17\frac{9}{10}$	N 77 9ᴛ E	6	13 54	28 16ᴛ	170 45	Ditto.
	12 $35\frac{1}{3}$	N 76 $55\frac{1}{5}$ E	6	12 47ᴛ			Gregory's Compaſs
♄ —— 8	4 58ᴛ	S. 73 47 W	5	12 11			Ditto
	4 $15\frac{9}{10}$	S 72 18 W	5	13 $16\frac{1}{2}$	28 $37\frac{1}{3}$	170 19	Ship's Compaſs
	3 16ᴛ	S 71 6ᴛ W	6	13 54			Knight's ditto
☽ —— 10	13 18	N 79 $0\frac{1}{8}$ E	6	11 $28\frac{1}{6}$			Ship's ditto
	14 59ᴛ	N 78 6ᴛ E	6	11 25ᴛ	29 5ᴛ	168 10	Knight's ditto
	16 34	N 78 25 E	6	10 15ᴛ			Gregory's ditto
♂ —— 11	13 39ᴛ	S 78 20 W	6	11 19			Ship's ditto
	12 $3\frac{1}{2}$	S 77 53ᴛ W	6	10 $51\frac{1}{3}$	29 37	168 2	Knight's ditto
	10 $34\frac{1}{5}$	S, 78 $7\frac{1}{2}$ W	6	9 47ᴛ			Gregory's ditto
	14 24ᴛ	N 79 $1\frac{1}{2}$ E	8	10 $54\frac{1}{2}$	30 $35\frac{1}{2}$	167 51	Knight's ditto
☿ —— 12	21 41	N 76 $9\frac{1}{6}$ E	6	8 53	32 39	168 10	Gregory's ditto
♃ —— 13	12 $20\frac{1}{3}$	S 80 15 W,	7	8 29	33 10ᴛ	168 36	Ditto
	17 $37\frac{1}{2}$	N 79 3ᴛ E	6	8 $47\frac{1}{3}$	33 43	169 9	Ditto
♀ —— 14	11 $24\frac{1}{3}$	S, 77 $25\frac{1}{5}$ W	6	10 $29\frac{1}{6}$	34 $25\frac{1}{3}$	169 45	Knight's Compaſs
	15 $41\frac{1}{2}$	N 78 53ᴛ E	8	10 $18\frac{1}{6}$	35 $18\frac{1}{3}$	170 34	Ditto.
♀ Nov 11	20 40ᴛ	N 81 26 E,	5	13 15ᴛ	42 $54\frac{1}{6}$	175 30	
♄ —— 12	9 $23\frac{1}{10}$	S 62 $14\frac{1}{6}$ W	6	11 37ᴛ	43 34	176 58	

1774.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s center. ° ′	No. of Obs.	Variation East. ° ′	Latitude South. ° ′	Longitude East. ° ′	Observers, and Remarks.
♄ Nov. 12.	20 24 7/8	N. 81 55 E.	6	13 26 1/2	44 7	176 53	
☽ —— 14.	23 46 1/2	N. 78 39 E.	5	12 51	47 33	180 50	
♂ —— 15.	12 53 7/8	S. 63 56 W.	5	12 42	48 6 1/4	181 23	
☿ —— 16.	13 19 7/8	S. 64 13 3/4 W.	4	12 28	49 59	183 38	Very cloudy.
♃ —— 17.	21 32 1/4	N. 82 38 1/6 E.	8	10 54 3/4	52 31 1/4	188 31	Mr. Gilbert.
♂ —— 22.	22 56 1/6	N. 82 55 E.	5	9 35	55 42 2/3	204 34	Gregory's compass: cloudy.
☿ —— 23.	20 24 1/3	S. 74 52 1/4 W.	12	8 49 3/4	55 42 1/4	204 40	
♀ —— 25.	10 4 1/3	S. 61 5 1/6 W.	6	7 1 1/4	56 7	213 0	
♃ Dec. 1.	24 27 2/3	S. 87 55 1/6 E.	6	1 20	55 12	237 0	Gregory's compass: cloudy, and a great sea.
♄ —— 3.	22 18 3/4	S. 85 54 1/6 E.	12	3 18	53 21	240 50	
☉ —— 4.	13 23 1/3	S. 80 13 1/3 W.	6	3 35 2/3	53 15 1/6	242 17	Gregory's compass.
	22 6 1/2	S. 78 59 1/6 W.	6	3 13 1/3			Knight's ditto.
☽ —— 5.	18 27 1/3	S. 74 15 1/6 W.	10	3 5 2/3	53 6	246 10	Mr. Gilbert: Greg. compass.
	16 43	S. 70 32 1/2 W.	6	4 26 1/6			Knight's compass.
♂ —— 6.	8 24 2/3	S. 58 30 W.	8	4 58	53 13	250 5	Gregory's ditto.
	15 55 3/4	S. 78 45 3/4 E.	7	5 7 1/6	53 17 1/6	252 0	Ditto.
☉ —— 11.	24 5 1/10	S. 73 38 3/4 W.	8	9 54 1/2	53 49	264 40	Ditto.
	20 40 5/6	S. 67 35 W.	4	11 31			Knight's compass.
☽ —— 12.	15 0 1/2	S. 60 14 1/6 W.	6	11 17 5/6	53 21 1/6	268 24	Gregory's ditto.
	14 6 1/4	S. 58 30 5/6 W.	6	11 48 1/2			Knight's ditto.
	16 33 1/6	S. 86 1 3/4 E.	8	12 31	53 23 2/3	269 30	Gregory's ditto.
♂ —— 13.	9 12 1/6	S. 49 30 5/6 W.	6	13 49 1/6	53 23 1/6	270 30	Knight's ditto.
	8 37 1/2	S. 49 35 5/6 W.	6	12 56 5/6			Mr. Pickersgill: G.'s ditto.
	14 29 5/6	S. 84 56 2/3 E.	6	14 4 1/6	53 24 1/6	272 28	Ditto.
	16 42 1/3	S. 87 20 1/6 E	6	13 32 1/3			Gregory's compass.
☿ —— 14.	13 35 3/4	S. 53 11 2/3 W.	6	16 11 1/2	53 26 1/3	273 48	Knight's ditto.
	12 8 2/3	S. 52 47 1/2 W.	6	14 35 1/2			Gregory's ditto.
♃ —— 15.	16 16 1/2	S. 55 14 1/6 W.	6	17 37 5/6	53 30 1/3	277 30	Knight's ditto.
♀ —— 16.	12 29 1/3	S. 49 17 1/2 W.	6	18 24 3/4	53 25 1/3	280 58	Mr. Gilbert: Greg. ditto.
	11 4 7/8	S. 47 34 1/6 W.	6	18 15 1/6			Knight's ditto.
	13 1 2/3	S. 86 38 E.	5	18 16 1/4	53 25	282 46	Mr. Pickersgill: with Gregory's compass.
	19 36 2/3	S. 94 52 1/2 E.	(	17 44 1/2			
	23 59 5/6	S. 102 30 1/6 E.	6	19 40 1/6			
♄ —— 17.	16 22 1/6	S 52 20 W.	6	20 31	53 15 1/3	284 12	Mr. Gilbert: Greg. ditto.
	14 58 1/4	S. 49 46 2/3 W.	6	21 13 1/3			Knight's ditto.
☉ —— 18.	16 43 1/2	S. 52 57 1/2 W.	6	20 10 3/4	54 43 2/3	286 59	Ship's ditto.
	15 50 1/2	S. 50 49 1/6 W.	6	21 5 1/6			Knight's ditto.
	14 58 1/6	S. 50 15 W.	6	20 11 2/3			Gregory's ditto.
☽ —— 19.	17 31 2/3	S. 51 45 W.	6	22 22	55 31 2/3	289 20	Ship's ditto.
	16 38 1/3	S. 60 35 5/6 W.	6	22 16 1/6			Knight's ditto.
♃ —— 29.	18 45 5/6	S. 52 44 1/6 W.	6	23 28 1/3	55 20	293 55	Ship's ditto.
	17 23 3/4	S. 49 56 3/4 W.	4	24 15 3/4			Knight's ditto.
♄ —— 31.	14 9	S. 41 45 5/6 W.	6	25 22 2/3	54 41	295 46	Ship's ditto.
	11 8	S. 39 53 1/3 W.	6	25 46			Knight's ditto.
	25 44 2/3	N. 68 30 1/6 E.	6	25 24 1/3			Ship's ditto.
	26 43 2/3	N. 67 11 5/6 E.	6	25 21			Knight's ditto.

1775	Altitude of the ☉'s L. L.	Magnetic Azimuth of the ☉'s centre	No. of Obs.	Variation East	Latitude South	Longitude East	Observers and Remarks
☉ Jan 1	11 20$\frac{1}{2}$	S 41 21 W	10	24 45$\frac{1}{3}$	54 41	295 46	Knight's Compass
☽ — 2	12 34$\frac{1}{4}$	S 44 49$\frac{1}{6}$ W	6	23 14$\frac{1}{2}$			Ditto Mr Gilbert
♂ — 3	18 26$\frac{7}{8}$	N 83 35 E	8	19 54	55 11	297 7	Ship's Compass } The Ship
	20 24$\frac{1}{4}$	N 80 56$\frac{7}{8}$ E	8	19 47$\frac{1}{6}$			Knight's ditto } rolled 28°
☿ — 4	17 0$\frac{1}{3}$	N 85 13$\frac{1}{2}$ E	10	20 11$\frac{5}{6}$	56 42$\frac{1}{3}$	300 30	The Ship rolled 25°
♀ — 6	19 16	N 77 10 E	4	24 36	57 22$\frac{1}{2}$	306 19	Mr Pickersgill Greg Comp
	23 12$\frac{1}{2}$	N 71 13 E	5	24 25$\frac{1}{2}$			Knight's Comp Great motion
♄ — 7	16 12$\frac{1}{2}$	S 50 1$\frac{1}{2}$ W	6	23 53$\frac{1}{3}$	56 27$\frac{1}{2}$	306 30	Ditto
☉ — 8	12 57$\frac{1}{6}$	S 50 3$\frac{1}{4}$ W	8	19 55$\frac{1}{3}$	55 3	308 10	Ditto
♂ — 10	22 54	N 78 10 E	6	17 42	54 38$\frac{1}{2}$	314 20	
♄ — 14	29 56$\frac{1}{3}$	S 78 49$\frac{1}{6}$ W	12	15 44$\frac{1}{2}$	53 57$\frac{1}{7}$	320 35	
☽ — 16	5 21$\frac{1}{2}$	S 73 22$\frac{1}{2}$ E	4	12 29$\frac{5}{6}$	53 56	322 37	Mr Gilbert Ship's Compass
♂ — 17	18 37$\frac{1}{4}$	S 68 50 W	6	11 13$\frac{1}{2}$	54 9	323 10	Ship's Compass
	19 6	N 89 0 E	2	10 1	54 20$\frac{1}{3}$	323 54	Mr Clerke Ship's Compass
	20 31$\frac{1}{10}$	N 85 46$\frac{1}{2}$ E	6	11 18$\frac{1}{3}$			Knight's Compass
	21 31$\frac{1}{4}$	N 83 50 E	5	11 52$\frac{1}{2}$			Ship's ditto
♃ — 19	15 6	S 64 28$\frac{1}{3}$ W	6	11 31$\frac{1}{2}$	54 47$\frac{1}{3}$	324 20	Ditto
	14 0	S 62 45 W	2	11 42$\frac{1}{2}$			Knight's Compass
	12 49$\frac{1}{6}$	S 59 48$\frac{1}{3}$ W	3	12 59$\frac{1}{3}$			Ditto
	12 58	S 88 28$\frac{1}{3}$ E	6	15 13$\frac{1}{4}$	54 59$\frac{5}{6}$	323 40	Ship's Compass
	14 9$\frac{1}{4}$	N 88 39$\frac{1}{6}$ E	6	16 30$\frac{1}{6}$			Knight's ditto
☉ — 22	19 48$\frac{1}{2}$	S 69 26$\frac{7}{8}$ W	8	14 15$\frac{1}{2}$	54 54$\frac{1}{3}$	325 37	{ Mr Gilbert Greg Comp { A bad horizon
☽ — 23	11 42$\frac{1}{8}$	S 83 43$\frac{1}{3}$ E	3	10 42	54 57$\frac{1}{3}$	325 25	Bad horizon
☿ — 25	18 20$\frac{1}{3}$	S 74 28 W	5	9 6	56 14$\frac{1}{2}$	327 30	Knight's Compass
	17 19$\frac{1}{2}$	S 74 11$\frac{1}{2}$ W	6	7 24$\frac{1}{3}$			Gregory's ditto
	16 10$\frac{1}{3}$	S 71 16 W	5	8 38			Knight's ditto
	14 21$\frac{1}{2}$	S 89 50 E	5	12 33$\frac{1}{2}$	57 4$\frac{1}{2}$	328 58	Ditto
♃ — 26	17 9$\frac{1}{2}$	S 94 30 E	6	11 37$\frac{1}{3}$	59 14	329 0	Gregory's Compass
	18 33$\frac{7}{8}$	N 84 36$\frac{1}{2}$ E	6	10 43$\frac{2}{3}$			Knight's ditto
♂ — 31	14 2$\frac{9}{10}$	S 89 37 E	8	10 47$\frac{1}{6}$	58 37$\frac{1}{2}$	332 45	Ship's ditto } Capt Cook
	15 30$\frac{1}{2}$	S 92 45$\frac{3}{8}$ E	8	10 37$\frac{1}{2}$			Knight's ditto }
♃ Feb 2	13 56$\frac{1}{3}$	S 70 50 W	3	9 49$\frac{1}{2}$	57 48$\frac{1}{6}$	333 8	Mr Gilbert Ship's Comp
	13 33$\frac{5}{6}$	S 70 35 W	5	9 15$\frac{1}{2}$			The same Compass
♀ — 5	15 58	S 80 37$\frac{1}{2}$ W	2	4 33$\frac{1}{2}$	57 16$\frac{1}{3}$	336 38	Mr Gilbert } Ship's Compass
	14 56	S 79 15 W	1	4 20$\frac{1}{2}$			Mr Clerke }
	14 9$\frac{1}{2}$	S 76 12$\frac{1}{2}$ W	6	6 11			
♂ — 7	14 30$\frac{1}{6}$	S 82 17$\frac{1}{2}$ W	8	1 52$\frac{1}{2}$	58 28	342 50	Knight's Compass
	18 39	N 86 3 E	5	2 42$\frac{1}{3}$	58 29$\frac{1}{3}$	344 40	Gregory's Compass } Mr Gilbert
	19 25$\frac{1}{3}$	N 86 42$\frac{1}{2}$ E	6	0 46$\frac{1}{2}$			Ship's ditto }
	20 13$\frac{2}{3}$	N 83 48 E	5	2 21			Knight's ditto }
	21 32$\frac{1}{4}$	N 80 49 E	5	3 5$\frac{1}{2}$			Knight's Compass
☿ — 8	9 36$\frac{1}{4}$	S 77 30 E	6	0 23$\frac{1}{3}$	58 28	346 44	Gregory's dit Mr Pickersgill
	12 44$\frac{1}{4}$	S 83 5 E	3	0 50$\frac{1}{2}$			Knight's Compass
				West.			
♃ — 9	14 16$\frac{1}{2}$	S 85 5$\frac{1}{4}$ W	8	0 7$\frac{3}{4}$	58 26$\frac{1}{3}$	346 53	Ditto

1775.	Altitude of the ☉'s L. L. ° '	Magnetic Azimuth of the ☉'s Center. ° '	[illegible]	Variation West. ° '	Latitude South. ° '	Longitude East. ° '	Observers, and Remarks.
♃ Feb. 9.	10 57½	S. 79 41½ E.	6	0 10	58 17	348 16	Knight's Compass.
	12 28½	S. 81 43½ E.	6	0 42½			Ship's ditto.
♀ —— 10.	18 39½	S. 94 19½ W	10	1 40½	58 15½	350 6	Knight's ditto.
♄ —— 11.	15 58½	S. 85 36½ E.	8	3 41½	58 23	352 56	Ship's ditto. } Mr. Gilbert.
	17 10½	S. 87 0½ E.	6	4 16½			Knight's ditto.
☉ —— 12.	21 42½	N. 78 22½ W.	2	3 2½	58 20	353 15	Ditto.
	17 3½	S. 87 14½ E.	6	4 21½	58 2	354 29	Ditto.
	18 15½	S. 88 59 E.	5	4 35½			Mr. Gilbert. Ship's Comp.
Dropped 360° of Longitude, and repeated ♂ February the 14th.							
♂ —— 14.	13 53	N. 80 51½ W.	12	6 50½	56 14½	4 50	A great sea.
♃ —— 16.	10 30½	N. 75 31½ W.	6	12 7	54 24½	6 30	
	23 51	S. 89 37½ E.	8	13 42½	54 21½	8 6	
♀ —— 17.	14 50½	N. 76 29 W.	10	13 16½	54 25½	9 20	
♂ —— 21.	16 3½	N. 66 15½ W.	10	19 8½	54 26	19 15	
♄ —— 25.	24 50½	S. 82 49½ E.	10	24 7½	49 37½	29 32	
♂ —— 28.	12 18½	N. 65 3½ W.	6	23 12	46 48	33 36	Gregory's Compass.
	9 54½	N. 67 22½ W.	6	23 50½			Knight's ditto.
☿ March 1.	20 53½	S. 77 30 E.	2	24 12	45 53½	31 0	Mr. Gilbert. Ship's Comp.
	22 23½	S. 78 50 E.	3	24 34			Knight's Compass.
♃ —— 2.	4 13½	N. 73 23½ W.	8	22 23½	45 3½	30 45	
	13 19½	S. 70 34½ E.	2	22 56½	44 10	30 3	
♀ —— 3.	18 21½	N. 57 32½ W.	8	23 57½	43 33	29 40	
	16 37½	S. 74 28 E.	10	22 41½	43 43½	29 15	Very hazy.
☽ —— 6.	10 40½	S. 70 28 E.	8	21 57½	41 33	26 36	
☿ —— 8.	7 8½	S. 68 51 E.	6	21 30½	42 0½	25 25	
♀ —— 10.	7 51½	N. 67 33½ W.	8	20 50½	40 47½	23 50	
☉ —— 12.	7 18½	N. 66 7½ W.	8	22 9½	38 40½	24 10	
☽ —— 13.	6 21½	N. 66 56½ W.	8	22 2	37 0	22 24	
♂ —— 14.	9 41½	S. 71 30½ E.	8	22 46	35 20½	22 17	
♃ —— 16.	7 14½	S. 73 21½ E.	8	20 1½	34 55½	21 10	
♀ —— 17.	12 19½	N. 61 7½ W.	6	21 30½	35 6½	20 50	
	7 37½	S. 73 51½ E.	7	20 22½	34 58	20 40	
♃ April 27.	9 57½	N. 84 49½ E.	6	19 4½	33 4	16 43	
♀ —— 28.	9 35½	N. 86 15 E.	6	20 1	31 45½	14 13	
♄ —— 29.	9 9½	N. 85 30 E.	6	18 46	30 29	11 52	
☉ —— 30.	9 1½	N. 84 34½ E.	7	17 42½	29 21½	10 12	Knight's Compass.
	12 6½	N. 82 48½ E.	6	18 7	29 21	10 12	Ship's ditto.
♂ May 2.	7 53	N. 84 30 E.	6	16 42½	27 12½	7 11	
☿ —— 3.	6 55½	N. 84 26½ E.	7	16 13½	26 42½	6 42	
♃ —— 4.	4 45½	N. 52 16½ W.	6	17 8	26 25	6 30	
♄ —— 6.	9 48½	N. 81 53½ E.	8	15 17½	23 44½	3 40½	
	13 33½	N. 80 1½ E.	6	15 36	23 44½	3 40½	
☉ —— 7.	7 10½	N. 53 7½ W.	8	14 57½	23 11½	3 0½	
	7 58½	N. 83 7½ E.	4	15 23½	22 23½	2 12½	
☽ —— 8.	18 54½	N. 70 16½ E.	6	14 21	21 1½	0 33	

1775	Altitude of the ☉'s L L	Magnetic Azimuth of the ☉'s Center	No of Obs	Variation West	Latitude North	Longitude West	Observers and Remarks
	° ′	° ′		° ′	° ′	° ′	
♂ May 9	7 22$_{5}$	N 54 59⅙ W	6	13 11$_{1}$	20 31⅗	0 4	Gregory's Compass Mr Burr
	8 57$_{10}$	N 81 25⅚ E	6	14 55¼	19 49	0 48	
♃ —— 11	3 17½	N 55 47½ W	6	14 0	18 44½	2 23	
	10 58¼	N 80 22¼ E	8	13 57	18 32$_{1}$	2 35	
♀ —— 12	4 17⅘	N 55 31⅞ W	8	13 38	18 21$_{1}$	2 45	
	7 53$_{1}$	N 81 20 E	6	13 33$_{1}$	17 55	3 5	
♄ —— 13	16 53½	N 77 32½ E	6	13 51$_{1}$	16 56⅝	4 2	
☉ —— 14	7 26½	N 81 4⅙ E	6	13 15⅙	16 10⅓	4 55	
☿ —— 17	8 52⅗	N 54 26$_{1}$ W	6	12 18⅙	15 55½	5 49	On board the ship at St Helena
☽ —— 22	24 3	N 71 1 E	5	12 12	14 45¼	7 40	
♂ —— 23	8 20¼	N 77 30⅗ E	8	11 24$_{1}$	13 45$_{1}$	9 40	
☿ —— 24	9 21$\frac{9}{10}$	N 76 47½ E	6	10 56⅙	12 9	10 48	
	10 51$_{1}$	N 76 55⅗ E	6	11 21$_{1}$			Mr Gilbert
♃ —— 25	9 10¼	N 77 35 E	6	11 13	10 21	11 40	
♀ —— 26	8 26¼	N 77 56$_{1}$ E	6	11 9$_{1}$	8 38⅙	12 45	
♄ —— 27	10 32$_{1}$	N 77 20⅚ E	6	10 42⅗	7 55	13 45	
☉ —— 28	3 24$\frac{9}{10}$	N 56 48$_{1}$ W	12	10 54$_{1}$	7 56	14 30	Taken on board the ship, at anchor, off the Island of Ascension
	Amplit.	N 57 20 W	1	11 21$_{1}$			
♂ —— 30	Ditto	N 57 16 W	1	11 7$_{1}$			
☿ —— 31	5 22$_{1}$	N 55 46$_{1}$ W	6	11 6⅗	7 50$_{1}$	14 37	
	11 33$_{1}$	N 75 49⅙ E	6	10 9⅗	7 7⅓	15 6	
♃ June 1	9 8¼	N 75 47$_{1}$ E	6	9 39$_{1}$	6 45⅙	16 55	
♀ —— 2	14 25⅞	N 74 1$_{1}$ E	6	9 8	6 29	18 55	
♄ —— 3	10 12$_{1}$	N 73 41$_{1}$ E	6	8 11$_{1}$	6 4⅓	21 8	
☉ —— 4	8 32	N 72 50⅙ E	6	6 44$_{1}$	5 43$_{1}$	23 15	
☽ —— 5	8 4⅙	N 71 57$_{1}$ E	6	5 47⅙	5 14½	25 35	
♂ —— 6	6 57⅗	N 70 39$_{1}$ E	10	4 22⅙	5 1	27 35	Knight's compass
	8 58¼	N 70 49⅞ E	8	4 51$_{1}$			Gregory's ditto
☿ —— 7	8 56⅞	N 69 45$_{1}$ E	9	3 40$_{1}$	3 59	29 10	
♃ —— 8	9 11⅙	N 67 41⅞ E	8	1 25$_{1}$	3 43⅙	31 35	
♀ —— 9	17 57½	N 62 41$_{1}$ W	6	1 37$_{1}$	3 47⅙	32 33	Ship's compass
	16 3⅙	N 64 34$_{1}$ W	6	0 23⅙			Knight's ditto.
	6 36$_{1}$	N 66 43$_{1}$ E	6	0 14$_{1}$	2 24	32 12	
♄ —— 10	13 1¼	N 64 51⅞ W	8	1 2	1 34	32 0	
	14 2⅘	N 66 37$_{1}$ E	8	0 39$_{1}$	0 35⅙	32 0	
					North		
☉ —— 11	17 10	N 64 22 W	10	1 25	0 13⅓	31 50	
	9 11	N 68 9$_{1}$ E	7	1 22⅚	1 27$_{1}$	31 40	
☽ —— 12	17 25⅙	N 63 59⅙ W	6	2 21⅙	2 13	31 36	
♂ —— 13	10 36⅞	N 69 20 E	4	2 13$_{1}$	4 23$_{1}$	31 28	Very cloudy
☿ —— 14	17 13⅙	N 65 33¼ W	12	1 26$_{1}$	4 36$_{1}$	31 20	
♀ —— 16	10 65$_{1}$	N 62 8¼ W	8	5 11¼	5 11¼	30 14	
♄ —— 17	10 58¼	N 61 45 W	1	5 32	6 14	30 1	
☉ —— 18	9 27⅛	N 71 33$_{1}$ E	8	4 16	6 59$_{1}$	30 10	
☽ —— 19	9 34$_{1}$	N 72 12⅘ E	7	4 47⅗	7 53⅙	30 40	
♂ —— 20	10 33¼	N 71 55⅙ E	6	4 14⅛	9 9	32 18	

1775.		Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s Center. ° ′	No. Obs.	Variation West. ° ′	Latitude North. ° ′	Longitude West. ° ′	Observers, and Remarks.
☿	June 21.	12 15¼	N. 71 28 E.	10	3 23	10 47½	33 30	
♀	—— 23.	11 1½	N. 72 20½ E.	7	3 57½	14 13½	36 0	
♄	—— 24.	17 42¼	N. 65 57¼ W.	8	3 40½	14 56⅓	36 15	
☽	—— 26.	13 0	N. 65 35 W.	6	3 41	18 15	38 34	
		7 23⅙	N. 72 30 E.	7	4 40	19 8⅙	38 57	
♂	—— 27.	9 7¼	N. 64 20⅔ W.	8	4 4⅙	19 57⅓	39 15	
		9 35¼	N. 72 16⅓ E.	6	3 37⅔	20 50⅚	39 33	
♃	—— 29.	16 14⅙	N. 65 50⅚ W.	6	5 0½	23 36	40 10	
		16 31½	N. 77 47½ E.	2	6 8⅙	24 42⅓	40 37	
♀	—— 30.	14 51¼	N. 65 3¼ W.	6	6 4⅔	25 36⅔	40 50	
		7 40⅙	N. 73 57½ E.	10	5 58¼	26 34⅓	41 5	
♄	July 1.	12 44	N. 64 49⅚ W.	6	5 36⅙	27 33⅔	41 10	
		8 42¼	N. 75 3¼ E.	6	6 35⅓	28 13½	41 25	
☉	—— 2.	18 32⅙	N. 80 10⅚ E.	10	6 32½	29 42	41 3	
☽	—— 3.	10 54¼	N. 77 29⅙ E.	8	7 43	30 52⅔	40 37	
☿	—— 5.	17 42⅙	N. 64 1½ W.	6	9 53	32 38⅓	39 58	
		10 57½	N. 79 18½ E.	6	9 20	33 2	39 58	
♃	—— 6.	16 24⅙	N. 64 6⅔ W.	6	9 14⅔	33 10⅓	39 57½	
		10 13⅙	N. 79 10 E.	6	9 33	33 22⅓	39 48	
♀	—— 7.	12 47¼	N. 62 17½ W.	6	8 58	33 39⅓	39 44	
♄	—— 8.	4 13⅙	N. 55 47½ W.	6	9 47	34 18⅓	39 43	
		14 16⅙	N. 83 23⅓ E.	8	10 53½	34 52	39 45	
☉	—— 9.	14 22⅙	N. 62 37½ W.	8	10 8⅙	35 11⅓	39 40	
		12 53⅓	N. 81 53⅓ E.	6	10 8⅓	35 28⅔	39 0	
☽	—— 10.	15 10⅐	N. 62 52⅐ W.	7	10 33⅙	36 0⅓	38 20	
♂	—— 11.	6 19⅔	N. 64 52⅔ W.	7	12 8⅓	37 9⅓	35 20	
☿	—— 12.	11 34½	N. 56 27 W.	10	14 42⅓	38 13⅓	32 10	
♃	—— 13.	12 24⅙	N. 55 39⅚ W.	6	10 17½	38 33	29 15	
♀	—— 14.	18 42⅓	N. 81 36⅓ E.	6	21 19	38 31⅓	28 33	Taken on board the ship in Fayal Bay. See also p. 140.
☿	—— 19.	15 19½	N. 80 48½ E.	8	17 33	39 8½	25 50	
♀	—— 21.	10 55¼	N. 66 4½ W.	10	16 17½	39 26	23 36	
♄	—— 22.	9 29⅙	N. 64 44⅙ W.	6	16 57½	39 51⅓	22 13	
☉	—— 23.	14 5¼	N. 57 54⅙ W.	8	17 44½	41 12½	19 42	
☽	—— 24.	11 49⅓	N. 59 5½ W.	10	18 59½	42 29	17 45	
♂	—— 25.	8 51¼	N. 60 40⅓ W.	9	20 39⅙	44 6	15 50	
		16 44⅓	S. 79 11⅔ E.	8	21 53⅓	45 5	14 35	
♃	—— 27.	15 27⅓	N. 59 1½ W.	8	19 40½	47 32⅓	10 37	
♀	—— 28.	14 47½	N. 58 52 W.	10	19 10½	48 27½	7 58	
♄	—— 29.	16 11⅓	S. 60 46 W.	3	19 24	50 6½	4 0	
		14 10⅓	S. 58 21⅓ W.	6	19 28			

THE END.

E R R A T A.

Page 2, in the title to the right-hand Col on the lower part of the page, for *gains* read *losses*
Page 65 In the title to the right hand Col at the top of the page for *gains* read *losses*
For page 136 read page 139
Page 281 Sept 23d Col 6 for 2 h 25 55 ½ read 2 h 25 25 ½
Page 282 Oct. 10th Col 3 for 21 h 47′ 5 read 21 h 7′ 33″
Page 282 July 20th Col 3, for 0 h 34′ 10 read 0 h 34 40″
Page 311 Aug 4th Col 10, for 19° 11 ½ read 18 31 ½
Page 311 Aug 6th Col 10, for 18° 34 ½ read 19 14 ½
Page 328 Longitude of Cape Noir Col 9, for 287 56 ¼, read 286° 56 ¼
In many places *dele* e in Mr Bayly s name.